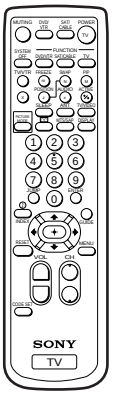
SERVICE MANUAL RA-3A CHASSIS

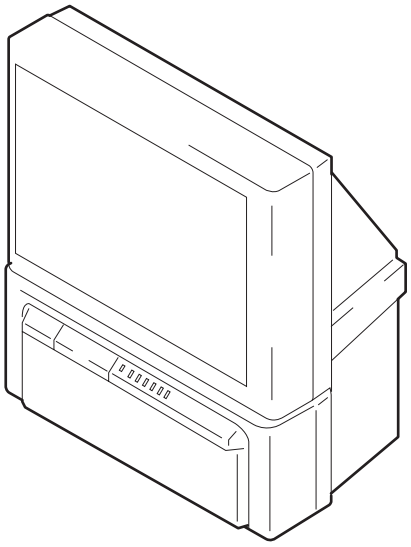
Self Diagnosis Supported model

MODEL	COMMANDER	DEST.	CHASSIS NO.
KP-XR432K90	RM-Y906K	Korean	SCC-P50D-A
KP-XR432N90	RM-Y906	Taiwan	SCC-P50C-A

WEIXIUZHIJIA 维修之家



RM-Y906/Y906K



KP-XR432K90/432N90

PROJECTION TV

SONY®

SPECIFICATIONS

Projection system
3 picture tubes, 3 lenses, horizontal in-line system

Picture tube
7-inch high-brightness monochrome tubes (6.3 raster size), with optical coupling and liquid cooling system

Projection lenses
High performance, large diameter hybrid lens F1.05

Television system
American TV standard

Channel coverage
VHF: 2–13/UHF: 14 –69/CATV: 1 – 125

Antenna
75 ohm external terminal for VHF/UHF

Screen size (measured diagonally)
43 inches

Inputs/outputs

VIDEO 1 IN

VIDEO 2 INPUT

S VIDEO IN (4-pin mini DIN):
Y: 1 Vp-p, 75-ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms

VIDEO (phono jack): 1 Vp-p, 75-ohms unbalanced, sync negative

AUDIO (phono jacks): 500 mVrms (100% modulation), Impedance: 47 kilohms

VIDEO 3 IN

S VIDEO IN (4-pin mini DIN):
Y: 1 Vp-p, 75-ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms

VIDEO (phono jack): 1 Vp-p, 75-ohms unbalanced, sync negative

Y: 1 Vp-p, 75 ohms, sync negative

PB : 0.7 Vp-p, 75 ohms

PR : 0.7 Vp-p, 75 ohms

AUDIO (phono jacks): 500 mVrms (100% modulation), Impedance: 47 kilohms

MONITOR OUT

VIDEO (phono jack): 1 Vp-p, 75-ohms unbalanced, sync negative

AUDIO (phono jacks): 500 mVrms (100% modulation), Impedance: 470 ohms

AUDIO (VAR/FIX) OUT (phono jacks): 500 mVrms (100% modulation), Impedance: 470 ohms

CONTROL S OUT: minijack

Speaker
100 mm (4”) x 2

Speaker output
15W x 2

Power requirement
110 V AC, 60 Hz (KP-XR432N90)
220 V AC, 60 Hz (KP-XR432K90)

Power consumption
In use (Max.): 210W (KP-XR432N90)
200W (KP-XR432K90)
In standby: 1 W

Dimensions (W/H/D)
966 x 1,063 x 508 mm (38 1 /8 x 41 7 /8 x 20 inches)

Mass
61.5 kg (135 lbs 9 oz)

Supplied accessories
Remote control RM-Y906K (1) (KP-XR432K90), RM-Y906 (KP-XR432N90)
Batteries (2) size AA (R6)

Design and specifications are subject to change without notice.

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(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESECOMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFEOPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SECTION 1
SELF DIAGNOSIS FUNCTION

1. Summary of Self-Diagnosis Function

- This device includes a self-diagnosis function.
- In case of abnormalities, the TIMER/STANDBY indicator automatically blinks. It is possible to predict the abnormality location by the number of blinks. The Instruction Manual describes blinking of the TIMER/STANDBY indicator.
- If the symptom is not reproduced sometimes in case of a malfunction, there is recording of whether a malfunction was generated or not. Operate the remote command to confirm the matter on the screen and to predict the location of the abnormality.

2. Diagnosis Items and Prediction of Malfunction Location

- When a malfunction occurs the TIMER/STANDBY indicator only blinks for one of the following diagnosis items. In case of two or more malfunctions, the item which first occurred blinks. If the malfunctions occurred simultaneously, the item with the lower blink count blinks first.
- The screen display displays the results regarding all the diagnosis items listed below. The display " 0 " means that no malfunctions occurred.

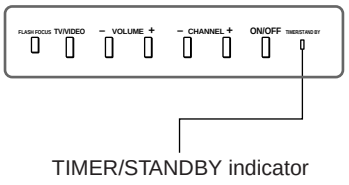
Diagnosis item	TIMER/STANDBY Indicater Number of blinks	Supposed malfunction	Condition	Self-diagnosis screen display, Diagnosis item: Results
• Power not ON	0	[Standby Power Supply System] F6001 open.(FB board) R6565 open. Q6506 short circuit [Main Power Supply System] IC6501 and R6514 are broken. VD6001 short-circuit (FB board)	Cannot turn on the power. LED doesn't blink.	
+B OCP detection	2 times	Short circuit of power supply system in each circuit.	Goes to the standby mode Short circuit of +B line	2 : +B OCP 000
+B OVP detection	3 times	R672 open.	Goes to the standby mode Malfunction of power supply circuit	3 : +B OVP 000
Vertical deflection stop	4 times	IC1509(V out) is broken. Q1505(V Pulse Buffer) is broken.	Raster goes to one line horizontally, Aand then video signal is muted.	4 : V Stop 000
Video out abnormality detection	5 times	Video out, Q705, 732, 761 and others in CR, CG and CB boards circuit. Q218, 219, 220 (A board)	TIMER/STANDBY LED blinks approx. 30 seconds, and then blinks for the self diagnosis.	5 : AKB 000
Horizontal deflection stop	6 times	C515, 516 open. IC206(YC Jungle) is broken.	Raster doesn't appear.	6 : H Stop 000
Audio abnormality detection	8 times	IC406(Audio amp.) is broken. PS401, 402 open.	The sound is not out. Goes to the standby mode	8 : Audio 000

* : 000 the range of values for number of operations is 000-255. For 256 or higher there is no count up and the number remains at 255.

3. Blinking count display of TIMER/STANDBY indicator

* One blink is not used for self-diagnosis.

< FRONT PANEL >

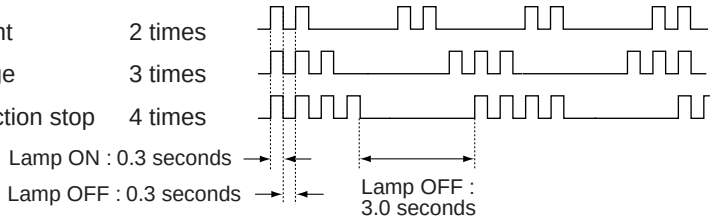


TIMER/STANDBY indicator

•EXAMPLE

<Diagnosis Items> <Number of Blinks>

- +B overcurrent 2 times
- +B overvoltage 3 times
- Vertical deflection stop 4 times



Release of TIMER/STANDBY indicator blinking.

- The TIMER/STANDBY indicator blinking display is released by turning OFF the power switch on the TV main unit or removing the plug from the power.

4. Self-diagnosis screen displays

- In cases of malfunctions where it is not possible to determine the symptom such as when the power goes off occasionally or when the screen disappears occasionally, there is a screen display on whether the malfunction occurred or not in the past (and whether the detection circuit operated or not) in order to allow confirmation.

<Screen Display Method>

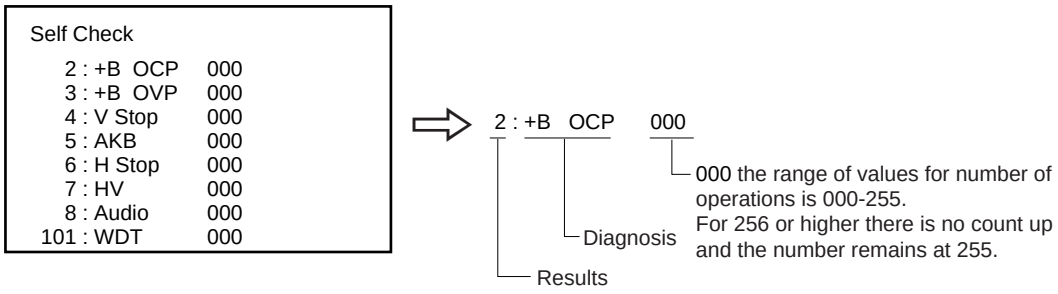
- Quickly press the remote command button in the following order from the standby state.

DISPLAY ➡ Channel 5 ➡ VOL – ➡ POWER

⇧

Be aware that this differs from the method of entering the service mode (volume +).

Self-diagnosis screen display


Self Check
2 : +B OCP 000
3 : +B OVP 000
4 : V Stop 000
5 : AKB 000
6 : H Stop 000
7 : HV 000
8 : Audio 000
101 : WDT 000
2 : +B OCP 000
000 the range of values for number of operations is 000-255.
For 256 or higher there is no count up and the number remains at 255.
Diagnosis
Results

5. Self-Diagnosis Screen Display

- The results display is not automatically cleared. In case of repairs and after repairs, check the self-diagnosis screen and be sure to return the results display to " 0 ".
- If the results display is not returned to " 0 " it will not be possible to judge a new malfunction after completing repairs.

<Method of Clearing Results Display>

1. Power off (Set to the standby mode)
2. DISPLAY ➡ Channel 5 ➡ VOL + ➡ POWER (Service Mode)
3. Channel 8 ➡ ENTER (Test reset = Factory preset condition)

<Method of Ending Self Diagnosis Screen>

- When ending the self-diagnosis screen completely, turn the power switch OFF on the remote commander or the main unit.

6. Self-diagnosis function operation

OCP Low B and +B line detect DET SHORT, and shut-down POWER ON RELAY.
Reset by turning power on/off.
In case of +B is loaded approx. 1.3A or more, microcomputer detects it via IC651.

OVP In case of +B becomes approx. 150V or more, POWER ON RELAY shuts down and microcomputer detects it via IC651.
Reset by turning power on/off just the same as OCP.

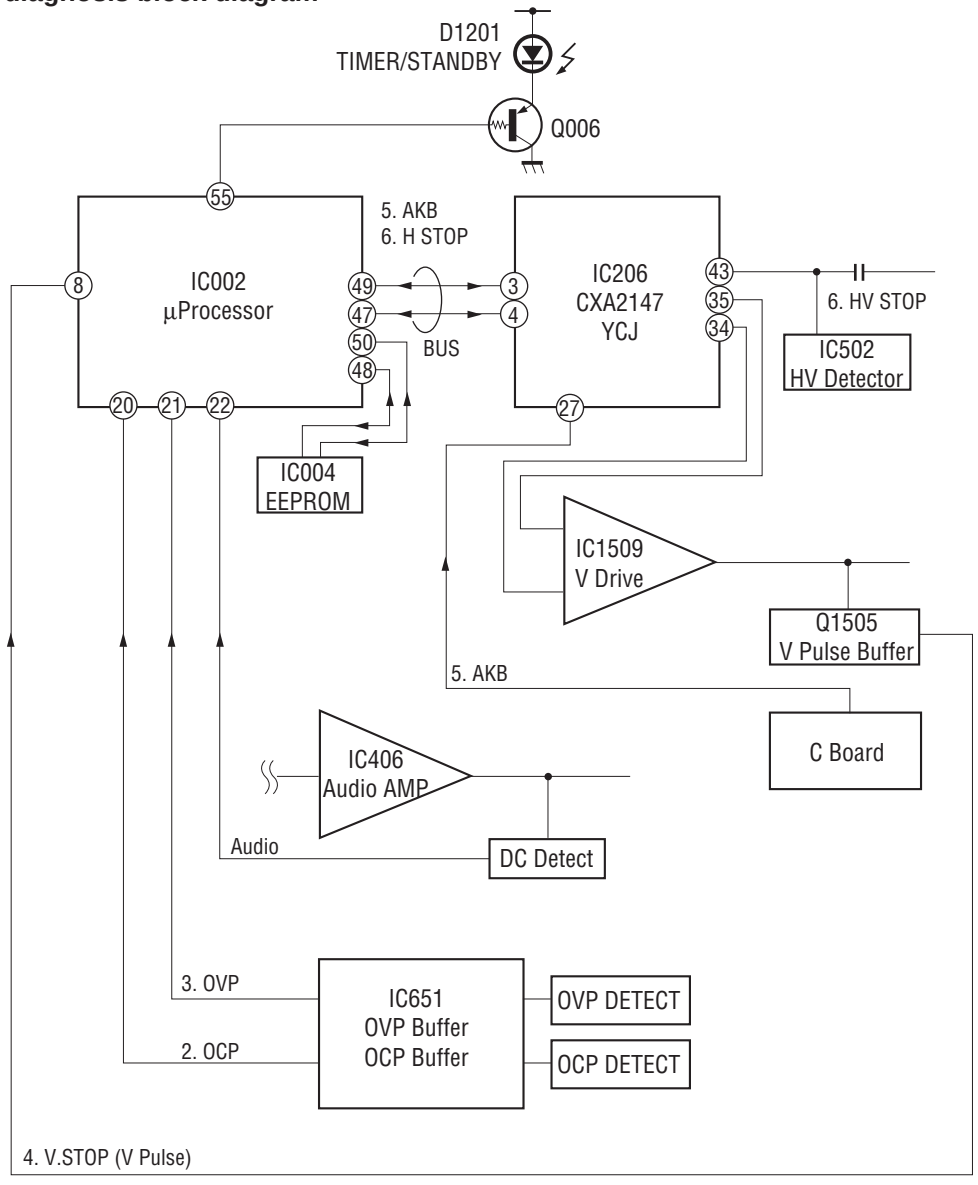
V Stop In case of microcomputer detects 2 seconds or more interval of V Pulse, Reference Pulse turns off by turning off the picture signal in YC Jungle IC (IC206).
After the picture signal turns off, V Pulse is regenerated 2 seconds or more, the picture signal turns on.

AKB IK detection. Makes LED blinking in case of microcomputer doesn't detect IK returns of IC206 CXA2147Q 30 seconds or more.

H Stop In case of HV becomes 33kV or more, IC502 detects it and shut-down H Drive Pulse.
Microcomputer receives H Stop data from IC206 and makes LED blinking.

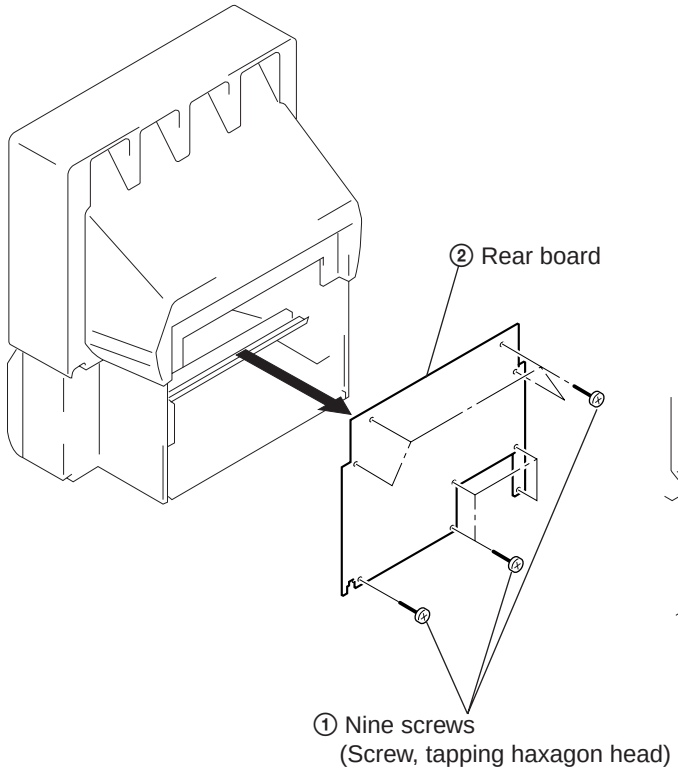
Audio In case of DC component overlaps the output of Audio Amp., microcomputer detects it and makes LED blinking.
Microcomputer forces to shut down the power.

Self-diagnosis block diagram

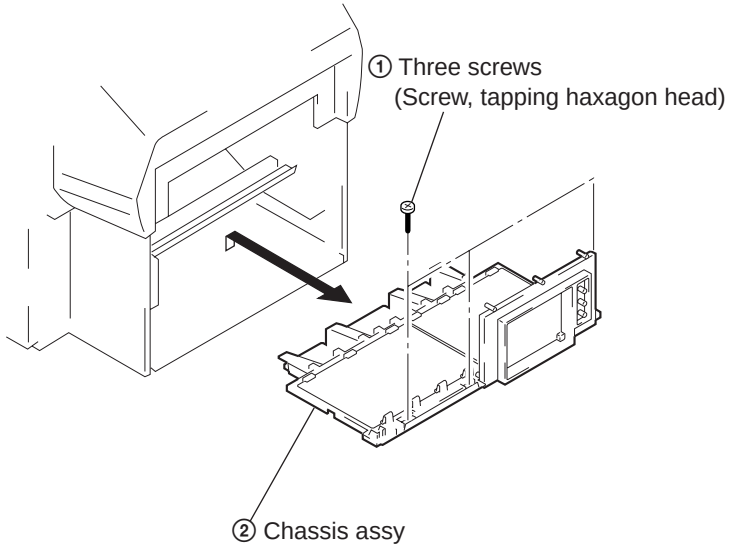


SECTION 2
DISASSEMBLY

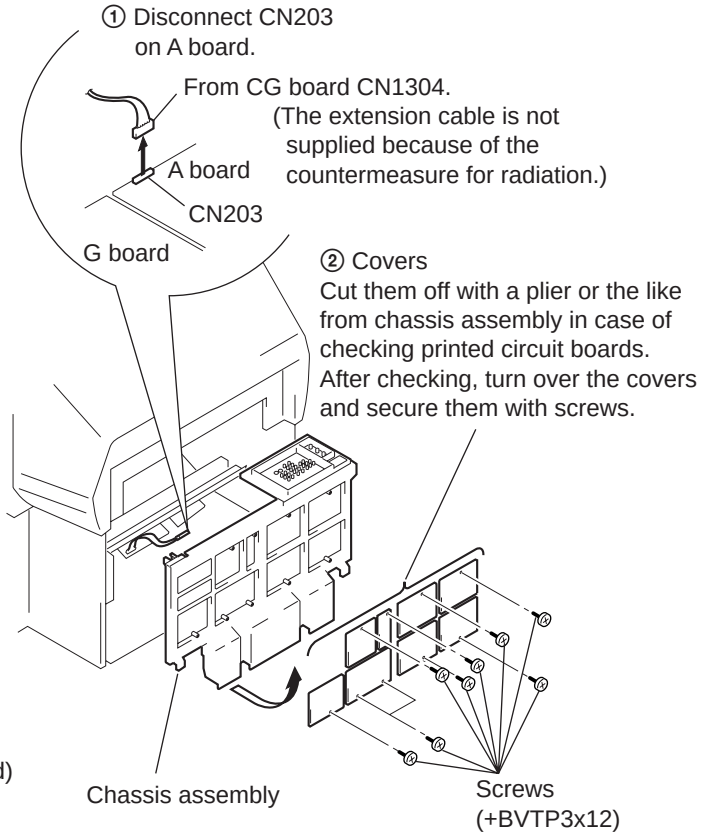
2-1. REAR BOARD REMOVAL



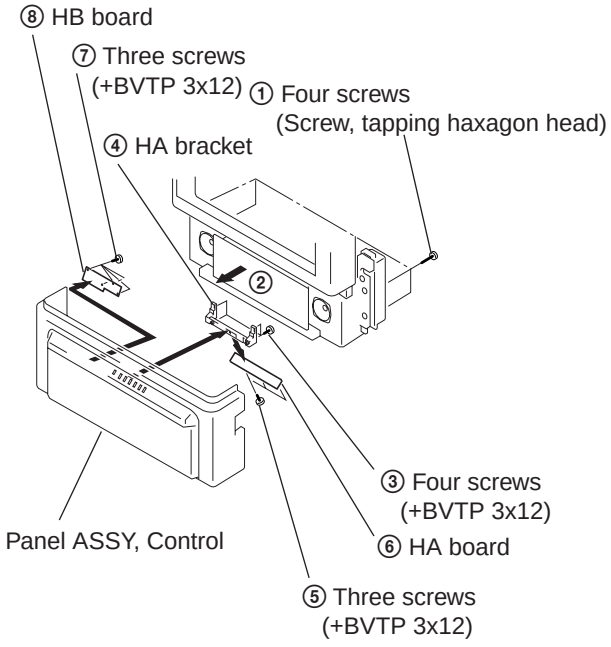
2-2. CHASSIS ASSY REMOVAL



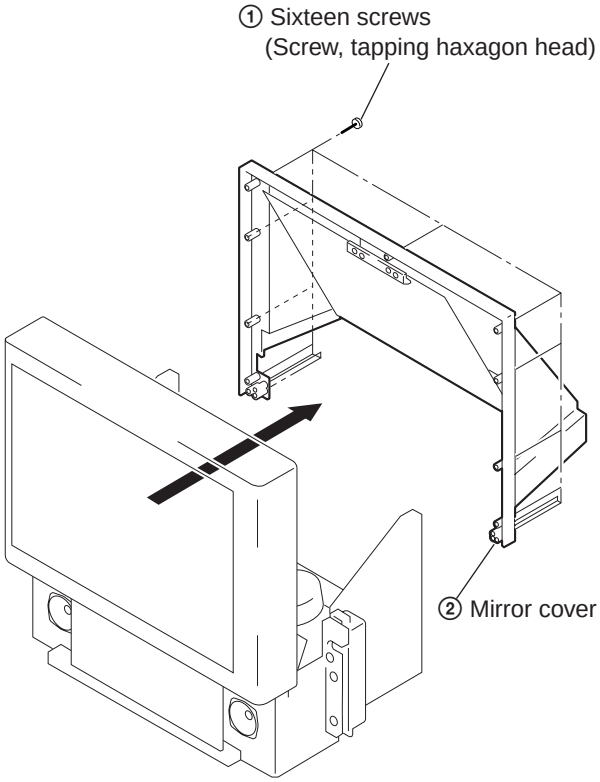
2-3. SERVICE POSITION



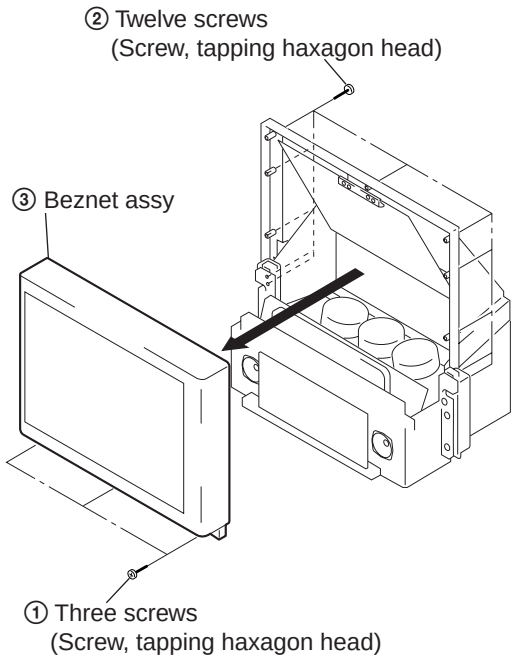
2-4. HA AND HB BOARD REMOVAL



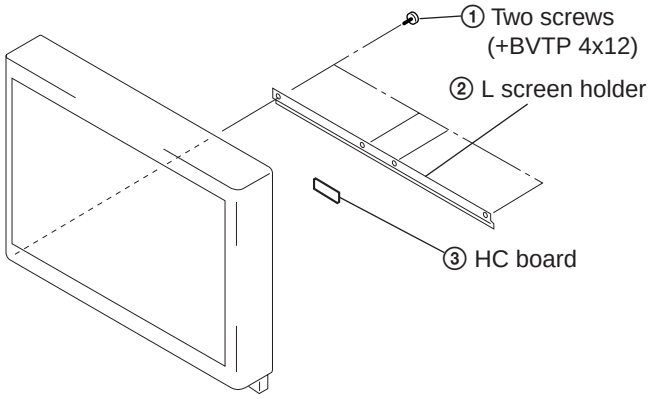
2-5. MIRROR COVER REMOVAL



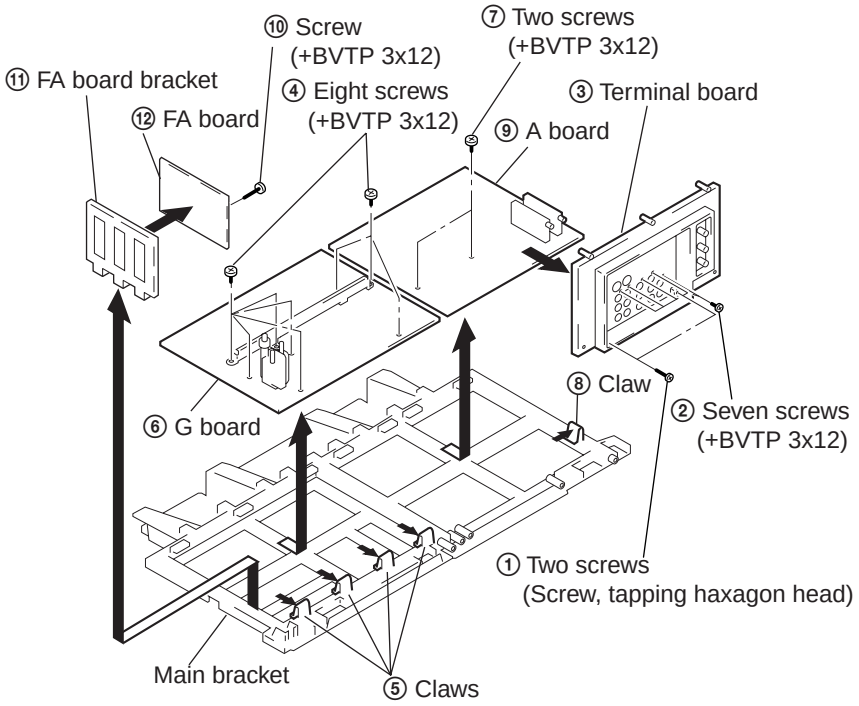
2-6. BEZNET ASSY REMOVAL



2-7. HC BOARD REMOVAL

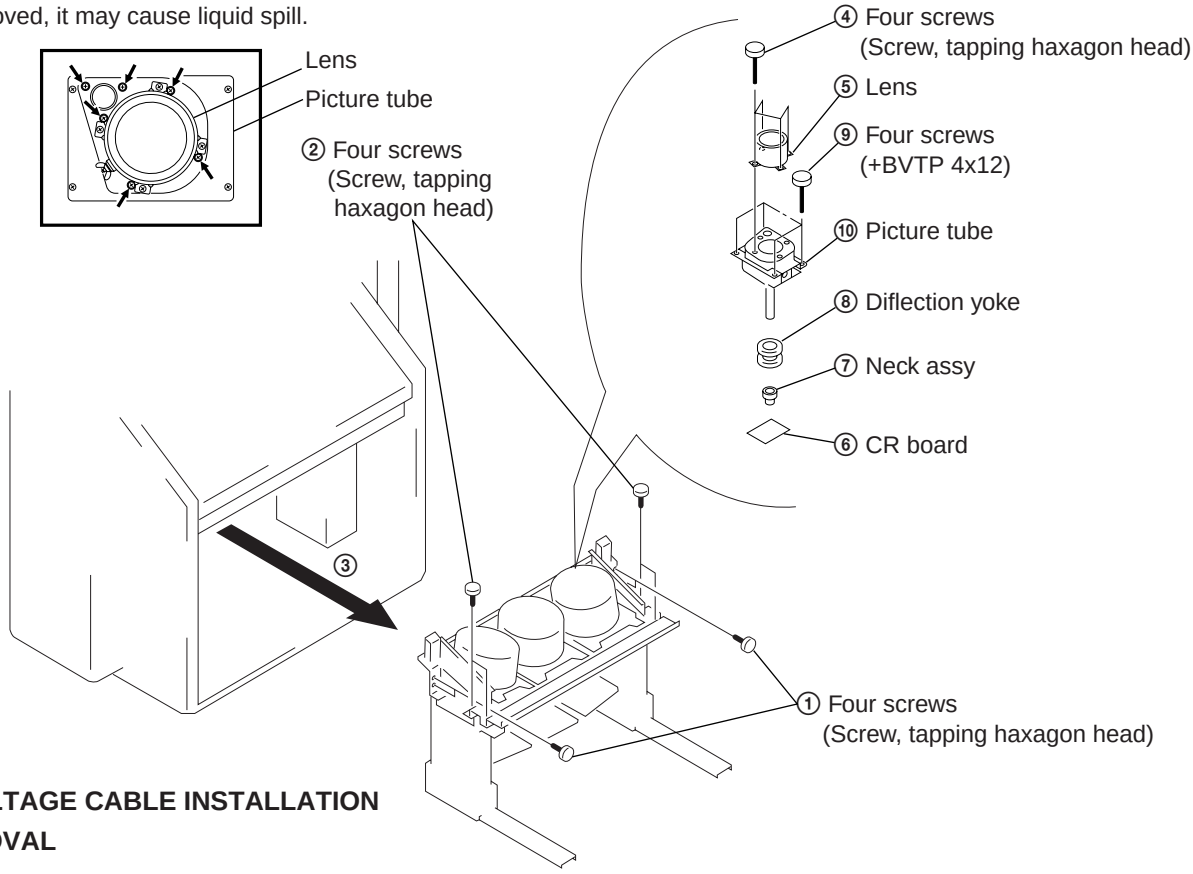


2-8. A, G AND FA BOARDS REMOVAL



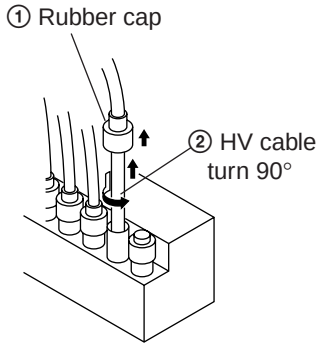
2-9. PICTURE TUBE REMOVAL

CAUTION: Removing the arrow-marked screws is strictly prohibited.
If removed, it may cause liquid spill.

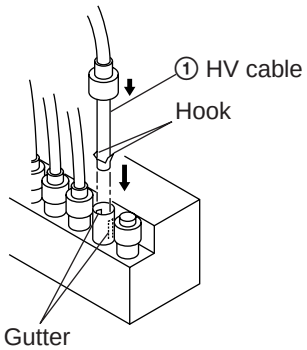


2-10. HIGH-VOLTAGE CABLE INSTALLATION AND REMOVAL

(1) Removal



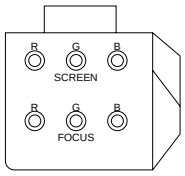
(2) Installation



SECTION 3
SET-UP ADJUSTMENTS

3-1. SCREEN VOLTAGE ADJUSTMENT (COARSE ADJUSTMENT)

1. Receive the Monoscope signal.
2. Set 50% BRIGHTNESS and minimum PICTURE.
3. Turn the red VR on the FOCUS block all the way to the left and then gradually turn it to the right until the point where you can see the retrace line.
4. Next gradually turn it to the left to the position where the retrace line disappears.



FOCUS block

Fig. 3-1

3-2. SCREEN (G2) ADJUSTMENT (FINE ADJUSTMENT)

Fine Mode is recommended to set screen controls to their optimal condition. It is necessary to build the simple jig, illustrated below, using 3-watt resistors. Please note, that if the proper voltage is not obtained with their listed values, resistors, then please increase or decrease one of the values in the resistor network to obtain the correct voltage.

1. Select VIDEO1 mode without signals.
2. Connect G2 JIG.
3. SW on JIG.
4. Connect an oscilloscope to the TP701(KR), TP732(KG) and TP761(KB) of CR board, CG board and CB board.
5. Adjust R, G and B screen voltage to 168-172V with screen VR on the Focus block.

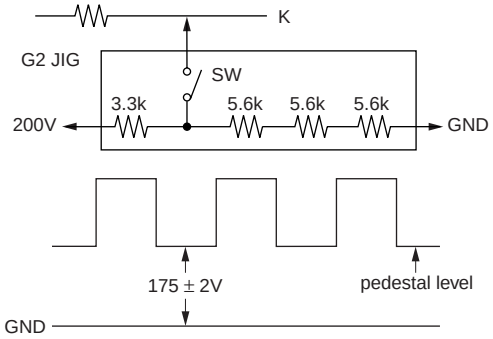


Fig. 3-2

3-3. DEFLECTION YOKE TILT ADJUSTMENT

1. Receive the Monoscope signal.
2. Set in service mode.
3. Cover the both red and blue picture lenses with the lens caps to show only the green color.
4. Loosen the deflection yoke set screw and align the tilt of the Deflection Yoke so that the bars at the center of the monoscope pattern are horizontal.
5. After aligning the deflection yoke, fasten it securely to the funnel-shaped portion (neck) of the CRT.
6. The tilt of the deflection yoke for red is aligned in the mode Cover the both green and blue picture lenses with the lens caps and the tilt of the deflection yoke for blue is aligned with in the mode Cover the both green and red picture lenses with the lens caps is aligned the same as was done for green.

Note: Instead of items 3 and 6, you can cut off the unnecessary color beams by controlling the service mode VPNT 28 RON, 29 GON, and 30 BON.

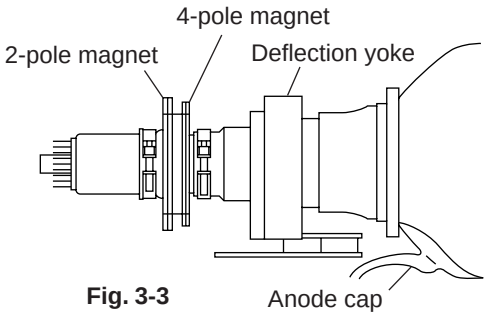
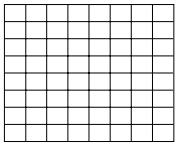


Fig. 3-3

3-4. FOCUS LENS ADJUSTMENT

In this adjustment, use the remote commander in the service mode.
For details of the usage of the service mode and the remote commander, please refer the item 3-9. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER.

1. Loosen the lens screw.
2. Set to the service mode.
3. Receive the all-white signal.
4. Cover the both red and blue picture lenses with the lens caps to show only the green color.
5. Set to PJE, and press 6 to display the test signal (crosshatch)“ on the screen.
6. Turn the green lens to adjust to the optimum focus point with the test signal.
7. Tighten the lens screw.
8. Cover the both green and blue picture lenses with the lens caps to show only the red color.
9. Set to PJE, and press 6 to display the test signal (crosshatch)“ on the screen.
10. Adjust red CRT lens just the same as green.
11. Cover the both green and red picture lenses with the lens caps to show only the blue color.



Test signal

Fig. 3-4

12. Set to PJE, and press 6 to display the test signal (crosshatch)“ on the screen.
13. Adjust blue CRT lens just the same as green.
14. After adjusting the items 3-5. Focus VR Adjustment, 3-6. 2-Pole Magnet Adjustment and 3-7. 4-Pole Magnet Adjustment, adjust again to the optimum focus point.

*: Every time you press 6, the test signal changes to “crosshatch+video signal” - “dots+video signal” - “crosshach(black)” - “dots(black)” - off.

Note: Instead of items 4, 8 and 11, you can cut off the unnecessary color beams by controlling the service mode VPNT 28 RON, 29 GON, and 30 BON.

3-5. FOCUS VR ADJUSTMENT

1. Set to the service mode.
2. Receive the all-white signal.
3. Cover the both red and blue picture lenses with the lens caps to show only the green color.
4. Set to PJE, and press 6 to display the test signal (crosshatch) on the screen.
5. Turn the green focus VR on the focus block to adjust to the optimum focus point with the test signal.
6. Cover the both green and blue picture lenses with the lens caps to show only the red color.
7. Set to PJE, and press 6 to display the test signal (crosshatch) on the screen.
8. Turn the red focus VR on the focus block to adjust to the optimum focus point with the test signal.
9. Cover the both green and red picture lenses with the lens caps to show only the blue color.
10. Set to PJE, and press 6 to display the test signal (crosshatch) on the screen.
11. Turn the blue focus VR on the focus block to adjust to the optimum focus point with the test signal.
12. After adjusting the items 3-4. Focus Lens Adjustment, 3-6. 2-Pole Magnet Adjustment and 3-7. 4-Pole Magnet Adjustment, adjust again to the optimum focus point.

Note: Instead of items 3, 6 and 9, you can cut off the unnecessary color beams by controlling the service mode VPNT 28 RON, 29 GON, and 30 BON.

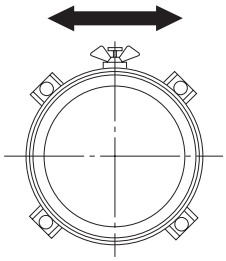


Fig. 3-5

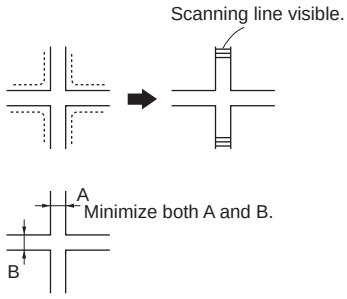


Fig. 3-6

3-6. 2-POLE MAGNET ADJUSTMENT (GREEN,RED)

1. Receive the Dot signal.
2. Set in service mode.
3. Cover the both red and blue picture lenses with the lens caps to show only the green color.
4. Turn the green focus VR on the focus block to the right and set to overfocus to enlarge the spot.
5. Now align the 2-Pole Magnet so that the enlarged spot is in the center of the Just Focus spot.
6. Align the green focus VR and set for just (precise) focus.
7. Perform the same alignment for red.

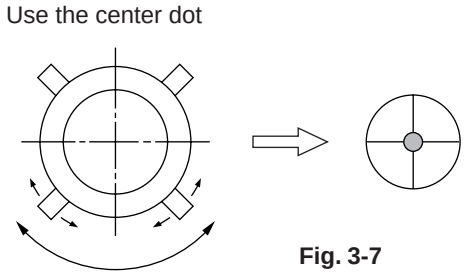


Fig. 3-7

3-7. 4-POLE MAGNET ADJUSTMENT

1. Receive the Dot signal.
2. Set in service mode.
3. Cover the both red and blue picture lenses with the lens caps to show only the green color.
4. Turn the green focus VR on the focus block to the left and set to underfocus to enlarge the spot.
5. Now align the 4-Pole Magnet so that the enlarged spot becomes a perfect circle for green and red.
6. Perform the same alignment for blue.

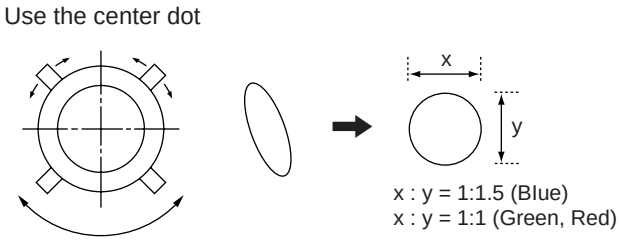


Fig. 3-8

3-8. DEFOCUS ADJUSTMENT (BLUE)

Note: Please adjust the blue dot to be slightly larger than red and green dots. This adjustment provides a more pleasing picture to the customer.

1. Select the video menu and set the mode to “VIVID” mode.
2. Set to the service mode.
3. Change TV mode to the video input mode.
4. Set to PJE, and press 6 to display the test signal (dots) on the screen.
5. Turn the blue focus VR on the focus block to adjust to the diameter of the dots as shown in the figure below.

[Focus adjustment point]

Inch	43"
L	6

Fig. 3-9

3-9. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

By using Remote Commander (RM-Y906/Y906K),all circuit adjustments can be made.

NOTE : Test Equipment Required.

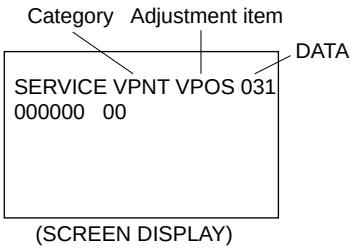
1. Pattern Generator (with component outputs)
2. Frequency counter
3. Digital multimeter
4. Audio oscillator

1. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

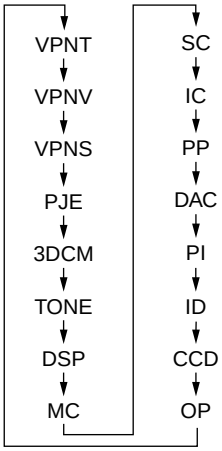
SERVICE MODE PROCEDURE

1. Standby mode. (Power off)
2. DISPLAY → 5 → VOL (+) → TV POWER
   on the Remote Commander.
   (Press each button within a second.)

SERVICE MODE ADJUSTMENT



3. The SCREEN displays the item being adjusted.
4. Press 1 or 4 on the Remote Commander to select the adjustment item.
5. Press 3 or 6 on the Remote Commander to change the data.
6. Press 2 or 5 on the Remote Commander to select the category.
   Every time you press 2(Category up), Service mode changes in the order as shown below.



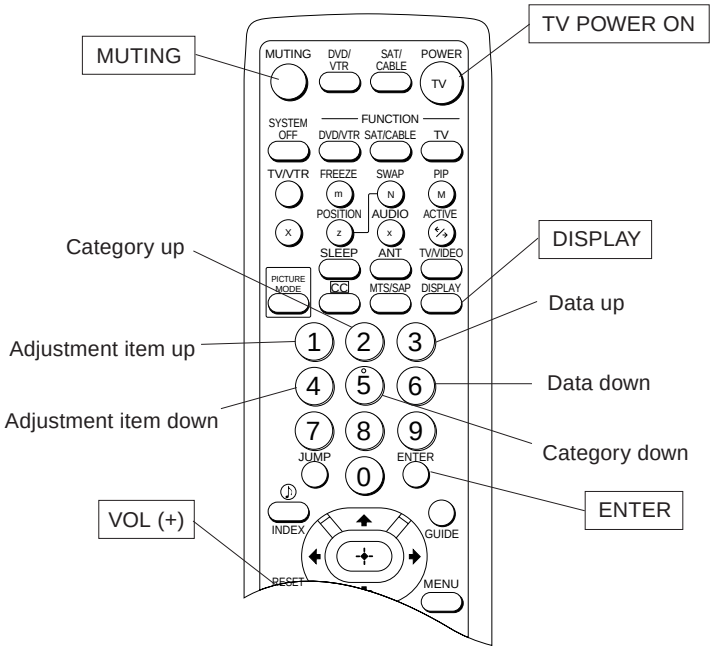
7. If you want to recover the latest values press 0 then ENTER to read the memory.
8. Press MUTING then ENTER to write into memory.
9. Turn power off.

Note: Press 8 then ENTER on the Remote Commander to initialize or turn set off and on to exit.

2. MEMORY WRITE CONFIRMATION METHOD

1. After adjustment, remove the plug from AC outlet, and then replace the plug in AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again and confirm they were adjusted.

3. ADJUSTING BUTTONS AND INDICATOR



RM-Y906/Y906K

Note : When the PJE mode is activated, which displays an internally generated signal, several buttons on the remote commander will have different functions than listed above. Therefore, when in the PJE mode, refer to page 17 for button functions.

4. SERVICE MODE LIST

Note: • shaded items are fixed. There is no need to change data. Others are different a little in the sets individually. Basically, there is no need to change data, too.
• Usually, there is no need to adjust except for VPNT and PJE. Use data as a reference in case of replacing printed circuit boards or devices.

VPNT (Video Processor NTSC)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	VPOS	0-63	31	V POSITION
1	VSIZ	0-63	31	V SIZE
2	VCOM	0-3	0	V COMP
3	VLIN	0-15	7	V LINEARITY
4	VSCO	0-15	7	V SCURVE CORRECTION
5	HPOS	0-15	7	H POSITION
6	HSIZ	0-63	31	H SIZE
7	PAMP	0-63	31	PIN AMP
8	UPIN	0-15	7	UPPER CORNER PIN DISTORTION
9	LPIN	0-15	7	LOWER CORNER PIN DISTORTION
10	PPHA	0-15	5	PIN PHASE
11	AFC	0-3	2	AFC LOOP GAIN
12	VBOW	0-15	7	V BOW
13	VANG	0-15	7	V ANGLE
14	REF	0-3	3	REFERENCE PULSE POSITION
15	RDRV	0-63	31	RED DRIVE GAIN
16	BDRV	0-63	31	BLUE DRIVE GAIN
17	RCUT	0-15	7	RED CUTOFF
18	BCUT	0-15	7	BLUE CUTOFF
19	SCON	0-15	7	SUB CONTRAST
20	SHUE	0-15	7	SUB HUE
21	SCOL	0-15	7	SUB COLOR
22	CDM2	0,1	0	COUNT DOWN MODE2
23	DPIX	0,1	1	DYNAMIC PICTURE
24	NOTC	0,1	0	Y CHROMA TRAP
25	CROM	0-15	7	CHROMA TRAP F0
26	TOT	0,1	0	CHROMA TOT FILTER
27	SHPF	0-3	3	SHARPNESS F0
28	RON	0,1	1	RED ON
29	GON	0,1	1	GREEN ON
30	BON	0,1	1	BLUE ON
31	DCOL	0,1	1	DYNAMIC COLOR
32	CDMD	0,1	0	V COUNT DOWN
33	LBLK	0-15	13	LEFT-SIDE BLANK WIDTH
34	RBLK	0-15	13	RIGHT-SIDE BLANK WIDTH
35	PREC	0-3	1	PRE OVER LEVEL FOR COMP .V IN
36	PREY	0-3	1	PRE OVER LEVEL FOR Y IN

VPNV (Video Processor NTSC Vivid)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	SBRV	0-63	27	SUB BRIGHTNESS FOR VIVID
1	GMMV	0-3	2	GAMMA LEVEL FOR VIVID
2	YDCV	0,1	1	Y-DC TRANSFER RATIO FOR VIVID
3	ABLV	0,1	1	ABL MODE FOR VIVID
4	AXIV	0,1	0	AXIS R-Y,G-Y FOR VIVID

VPNS (Video Processor NTSC Standard)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	SBRS	0-63	27	SUB BRIGHTNESS FOR STANDARD
1	GMMS	0-3	2	GAMMA LEVEL FOR STANDARD
2	YDCS	0,1	0	Y-DC TRANSFER RATIO FOR STANDARD
3	ABLS	0,1	1	ABL MODE FOR STANDARD
4	AXIS	0,1	0	AXIS R-Y,G-Y FOR STANDARD

PJE (Projection TV Engine)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	FDIS	0,1	0	SELECT REGI DATA DISPLAY OF FINE ADJ
1	OSDH	1-255	31	PJED SERVICE MENU H POSITION
2	OSDV	1-255	25	PJED SERVICE MENU V POSITION
3	FVST	0-255	25	LINE NUMBER OF FINE ADJUST START
4	V1ST	0-255	0	V1 START DATA
5	V1CU	0-255	62	V1 COUNT UP DATA
6	COHP	0-255	0	H-PHASE OF ROUGH ADJ
7	FIHP	0-255	194	H-PHASE OF FINE ADJ
8	TPHP	0-255	62	H-PHASE OF TEST PATTERN
9	DFHP	0-255	225	H-PHASE OF DYNAMIC FOCUS
10	DFHG	-128-127	-80	H-2 GAIN OF DYNAMIC FOCUS
11	DFVG	-128-127	-15	V-2 GAIN OF DYNAMIC FOCUS
12	PWM l	0-255	0	PWM l
13	PWM2	0-255	32	H-PHASE OF AUTO REGI .TEST PATTERN
14	HBLD	0-255	244	H-PHASE OF RETURNED BLUE V LINE
15	HBLW	0-63	23	PULSE WIDTH OF RETURNED BLUE V LINE
16	BLKP	0-255	27	START BLANK PULSE
17	COGV	-128-127	X(*1)	GREEN V CENT OFFSET DATA OF AUTO REGI
18	CORV	-128-127	X(*1)	RED V CENT OFFSET DATA OF AUTO REGI
19	COBV	-128-127	X(*1)	BLUE V CENT OFFSET DATA OF AUTO REGI
20	COGH	-128-127	X(*1)	GREEN H CENT OFFSET DATA OF AUTO REGI
21	CORH	-128-127	X(*1)	RED H CENT OFFSET DATA OF AUTO REGI
22	COBH	-128-127	X(*1)	BLUE H CENT OFFSET DATA OF AUTO REGI
23	SOGV	-128-127	X(*1)	GREEN V SKEW OFFSET DATA OF AUTO REGI
24	SORV	-128-127	X(*1)	RED V SKEW OFFSET DATA OF AUTO REGI
25	SOBV	-128-127	X(*1)	BLUE V SKEW OFFSET DATA OF AUTO REGI
26	SOGH	-128-127	X(*1)	GREEN H SKEW OFFSET DATA OF AUTO REGI
27	SORH	-128-127	X(*1)	RED H SKEW OFFSET DATA OF AUTO REGI
28	SOBH	-128-127	X(*1)	BLUE H SKEW OFFSET DATA OF AUTO REGI
29	ERR	FIXED	0	AUTO REGI ERROR CODE
30	ADTM	0-255	144	TIMING TO GET A/D DATA OF AUTO REGI
31	VUP	1-255	1	AUTO REGI PATTERN UPPER V POSITION
32	VMID	1-255	102	AUTO REGI PATTERN MIDDLE V POSITION
33	VLOW	1-255	212	AUTO REGI PATTERN LOWER V POSITION
34	HPR	1-510	1	AUTO REGI PATTERN H POSITION
GRN	CENT	-512-511	000 / 000	GREEN H/V CENT
	SKEW	-512-511	000 / 000	GREEN H/V SKEW
	SIZE	-512-511	-70/-190	GREEN H/V SIZE
	LIN	-512-511	xxxx / xxxx	GREEN H/V LIN
	KEY	-512-511	xxxx / xxxx	GREEN H/V KEY
	PIN	-512-511	xxxx / 271	GREEN H/V PIN
BLU	CENT	-512-511	000 / 000	BLUE H/V CENT
	SKEW	-512-511	080 / -130	BLUE H/V SKEW
	SIZE	-512-511	-20 / -226	BLUE H/V SIZE
	LIN	-512-511	187 / xxxx	BLUE H/V LIN
	KEY	-512-511	xxxx / -115	BLUE H/V KEY
	PIN	-512-511	xxxx / 198	BLUE H/V PIN
RED	CENT	-512-511	000 / 000	RED H/V CENT
	SKEW	-512-511	080 / -130	RED H/V SKEW
	SIZE	-512-511	-61 / -206	RED H/V SIZE
	LIN	-512-511	195 / xxxx	RED H/V LIN
	KEY	-512-511	xxxx / 124	RED H/V KEY
	PIN	-512-511	xxxx / 250	RED H/V PIN

* 1 : Set correctly by the automatic resistration adjustment.

xxxx : Cannot change.

3DCM (3D Comb Filter)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	NRMD	0-3	0	NOISE REDUCER MODE
1	DYCO	0-15	2	ΔY CORING LEVEL SETTING
2	DYGA	0-15	10	ΔY GAIN SETTING
3	DCCO	0-15	5	ΔC CORING LEVEL SETTING
4	DCGA	0-15	5	ΔC GAIN SETTING
5	SELD	0,1	1	SELECT ΔY SIGNAL FILTER
6	D2GA	0-7	4	ΔY/C 2nd GAIN SETTING
7	VTRH	0-3	1	VTR HSYNC HYSTERESIS SETTING
8	VTRR	0-3	1	VTR HSYNC REFERENCE SETTING
9	LDSR	0-3	2	LD SIGNAL REFERENCE
10	VAPG	0-7	5	V APERTURE GAIN
11	VAPI	0-31	11	V APERTURE INVERT POINT
12	YPFT	0-3	0	Y PEAKING FILTER TAP
13	YPFG	0-15	9	Y PEAKING FILTER GAIN
14	V1PS	0-3	2	VERTICAL 1-LINE SELECTOR
15	VEGS	0-3	1	VERTICAL EDGE SELECTOR
16	CC3N	0,1	0	C SIGNAL 3-LINE COM FILTER
17	HDP	0-7	4	HD HORIZONTAL PHASE
18	CDL	0-7	4	C DELAY
19	HSSL	0-15	12	H SYNC SLICE LEVEL
20	VSSL	0-15	8	V SYNC SLICE LEVEL
21	HPLF	0,1	1	H PLL FILTER
22	BPLF	0,1	0	BURST PLL FILTER
23	FSCF	0,1	1	FSC FILTER GAIN
24	PLFG	0,1	1	PLL FILTER GAIN
25	EXAD	0,1	1	EXTERNAL AD IN
26	MSS	0,1	0	FORCED MOTION SIGNAL
27	COUT	0-3	2	C SIGNAL OUTPUT
28	YAPS	0-3	1	Y APERTURE
29	NSDS	0-3	0	NON STD SIGNAL DETECT.
30	CPP	0-3	0	CLAMP PULSE & AD RANGE
31	YHCO	0-3	1	Y HIGH FREQ.SIGNAL CORING
32	YPCO	0,1	0	Y PEAK FILTER CORING OFF
33	KILR	0-15	3	KILLER REFERENCE
34	BGPS	0-15	4	BGP START POSITION
35	BGPW	0-15	10	BGP WIDTH
36	ADCL	0-3	2	AD CLOCK DELAY
37	PWRF	0,1	0	PULSE WIDTH REFERENCE
38	YHCG	0,1	0	Y HIGH FREQ.SIGNAL CORING 1/2 GAIN
39	CKG2	0,1	1	CLOCK GENERATOR TEST BIT
40	CKGE	0,1	0	CLOCK GENERATOR TEST BIT

TONE (Tone Control)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	RBAS	0-63	39	RESET VALUE OF USER BASS DATA
1	RTRE	0-63	35	RESET VALUE OF USER TREBLE DATA
2	BBEH	0-15	-	BBE HIGH FREQUENCY
3	BBEL	0-11	-	BBE LOW FREQUENCY
4	SUFE	7	-	SURROUND EFFECT

DSP (Digital Signal Processor)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	TB0H	0-255	48	TRUSURROUND EFFECT (L+R) COARSE
1	TB0L	0-255	0	TRUSURROUND EFFECT (L+R) FINE
2	TB1H	0-255	64	TRUSURROUND EFFECT (L-R) COARSE
3	TB1L	0-255	0	TRUSURROUND EFFECT (L-R) FINE
4	TB2H	0-255	64	TRUSURROUND EFFECT (C) COARSE
5	TB2L	0-255	0	TRUSURROUND EFFECT (C) FINE
6	TBFH	0-255	165	TRUSURROUND EFFECT (S) COARSE
7	TBFL	0-255	126	TRUSURROUND EFFECT (S) FINE
8	TC0H	0-255	90	TRUSURROUND EFFECT (S) COARSE
9	TC0L	0-255	130	TRUSURROUND EFFECT (S) FINE
10	TC1H	0-255	11	TRUSURROUND EFFECT (L,R) COARSE
11	TC1L	0-255	100	TRUSURROUND EFFECT (L,R) FINE
12	SADH	0-255	64	SRS SPACE LEVEL COARSE
13	SADL	0-255	0	SRS SPACE LEVEL FINE
14	SB0H	0-255	92	SRS CENTER LEVEL COARSE
15	SB0L	0-255	0	SRS CENTER LEVEL FINE

MC (Main Chroma Decoder)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	MYDR	0-31	22	MAIN Y DRIVE
1	MSHU	0-63	31	MAIN SUB HUE
2	MSCL	0-63	31	MAIN SUB COLOR
3	MUPD	0-15	7	MAIN U PEDESTAL OFFSET
4	MVPD	0-15	7	MAIN V PEDESTAL OFFSET
5	MDLY	0-3	0	MAIN Y DELAY
6	MU2P	0-15	7	MAIN U2 PEDESTAL OFFSET
7	MV2P	0-15	7	MAIN V2 PEDESTAL OFFSET
8	MY2D	0-31	19	MAIN Y2 DRIVE
9	MU2D	0-31	11	MAIN U2 DRIVE
10	MV2D	0-31	11	MAIN V2 DRIVE
11	MPRE	0-3	3	MAIN PRE-OVER

SC (Sub Chroma Decoder)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	SYDR	0-31	28	SUB Y DRIVE
1	SSHU	0-63	31	SUB SUB HUE
2	SSCL	0-63	31	SUB SUB COLOR
3	SUPD	0-15	7	SUB U PEDESTAL OFFSET
4	SVPD	0-15	7	SUB V PEDESTAL OFFSET
5	SDLY	0-3	0	SUB Y DELAY
6	SU2P	0-15	7	SUB U2 PEDESTAL OFFSET
7	SV2P	0-15	7	SUB V2 PEDESTAL OFFSET
8	SY2D	0-3	20	SUB Y2 DRIVE
9	SU2D	0-15	11	SUB U2 DRIVE
10	SV2D	0-15	11	SUB V2 DRIVE
11	SPRE	0-3	3	SUB PRE-OVER

IC (Inset Chroma Decoder)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	PCDR	0-15	7	PIP COLOR
1	PHDR	0-15	7	PIP HUE
2	PAFC	0-3	2	PIP AFC LOOP GAIN
3	PTAD	0-15	7	PIP TRAP F0 ADJUSTMENT
4	PTOT	0,1	0	PIP CHROMA TOT FILTER
5	PSCN	0-15	7	PIP SUB CONTRAST
6	PYDC	0-7	0	PIP Y DC TRAN
7	PSHP	0,1	1	PIP SHARPNESS F0
8	PMSK	0,1	0	PIP MACRO VISION MASK

PP (Picture In Picture Vseries Only)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	BGHP	0-15	10	PIP H POSITION
1	BGHN	0-15	7	PIP H POSITION FOR NO SIGNAL
2	BGVP	0-15	7	PIP V POSITION
3	6BIT	0,1	1	6BIT(SMART6/SKIP6) MATRIX
4	MAHP	0-15	7	MAIN H ACQUISITION
5	MAVP	0-255	23	MAIN V ACQUISITION
6	SAHP	0-15	7	SUB H ACOUISITION
7	SAVP	0-255	23	SUB V ACQUISITION
8	DECS	0-31	18	SUB DECODER REGISTERS
9	DECM	0-31	18	MAIN DECODER REGISTERS
10	DIS	0-127	66	DISPLAY SETTING
11	BSIZ	0-15	2	BORDER SIZE
12	VPED	0-15	13	V PEDESTAL OFFSET
13	UPED	0-15	13	U PEDESTAL OFFSET

DAC (D/A Converter)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	UVSH	0-63	31	YUV SUB HUE
1	UVSC	0-63	31	YUV SUB COLOR

PI (Picture In Picture S Series only)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	PIPH		-	PIP H POSITION
1	PIPV		-	PIP V POSITION
2	PYSD		-	PIP SELECT DELAY
3	PYDL		-	PIP Y DELAY
4	PHDL		-	H-PULSE DELAY
5	PMVD		-	MAIN V-PULSE DELAY
6	PIVD		-	INSET V-PULSE DELAY
7	PCON		-	INSET CONTRAST
8	FRMY		-	FRAME Y
9	IPER		-	PIP PEDESTAIJ R-Y
10	IPEB		-	PIP PEDESTAL B-Y
11	PCPS		-	PIP CLP
12	PCPF		-	PIP CLP CYCLES
13	PPLL		-	PIP PLL TIME CONSTANT
14	PVNR		-	PIP VSP PULSE NOISE REDUCTION

ID (Identification)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	AREA	0-3	0	AREA ID
1	SERS	0-3	0	SERIES ID
2	VCHP	0-3	0	V CHIP ID

CCD (Closed Caption Decoder)

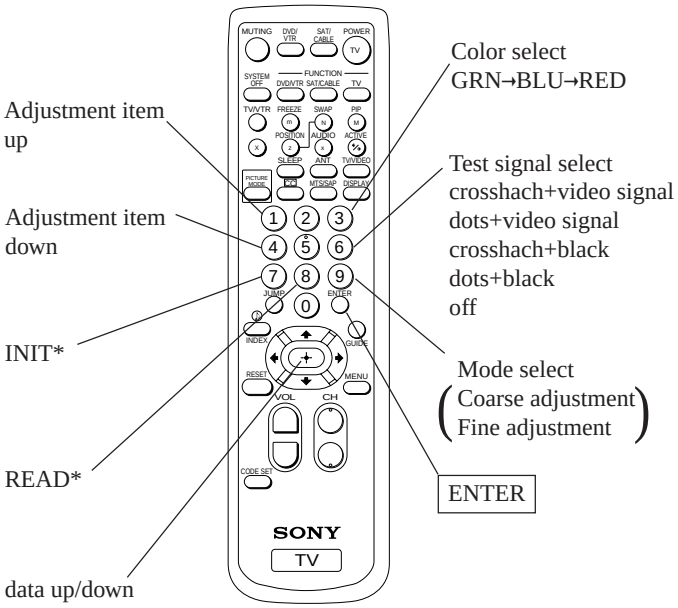
ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	CCHP	0-63	39	OSD H POSI FOR INDEX & CC/XDS
1	CCHN	0-63	29	NO FUNCTION

OP (Option)

ITEM NUMBER	ADJUSTMENT ITEM	DATA RANGE	STANDARD DATA	NOTE
0	DISP	0-63	9	OSD H POSITION
1	FWl	0-7	2	FIELD1 WINDOW
2	FW2	0-7	3	FIELD2 WINDOW

3-10. REGISTRATION ADJUSTMENT (PJE)

• FUNCTION OF BUTTONS OF REMOTE COMMANDER FOR PJE MODE.



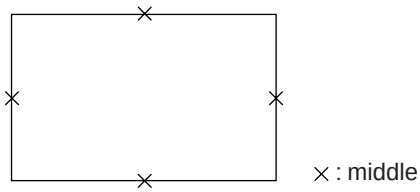
INIT*: Press 7, "INIT" green letters appear on the screen. Then press ENTER, all the PJE data are reset.

READ*: Press 8, "READ" green letters appear on the screen. Then press ENTER, all the PJE default data are restored.

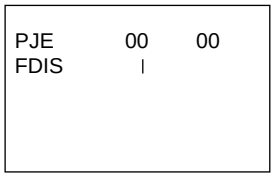
Note: Internal patterns are used for geometry and convergence adjustments. However, sizing and centering must be done with the use of an external generator. The recommended pattern would be a monoscope, or equivalent pattern, which would provide the means to adjust both the linearity and sizing of the picture.

[SETUP FOR ADJUSTMENT]

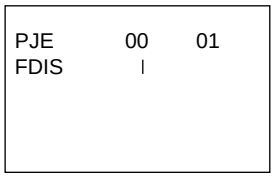
- Current flow in circuit should be stable before attempting adjustment. So wait 5 minutes after turning on the TV power.
- At the 4 insides of the screen, locate the middle. Use a tape measure to identify the middle.



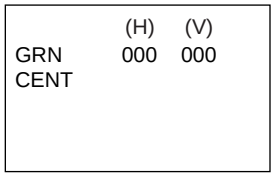
1. Set to the service mode by pressing quickly keys on the remote commander in the standby mode in the following order: [DISPLAY] → [5] → [VOL+] → [TV POWER]
2. Change TV mode to the video input mode.
3. Change the VPNT mode to the PJE 00 FDIS.



4. Set FDIS data to “01” to display the registration data of each spot in the fine adjustment.



5. Press [6] to display the test signal (crosshatch) on the screen.
6. Select GRN CENT(*) with the [1] and [4] keys on the remote commander and check that the adjustment data is now “000” both vertically and horizontally.



*: In the factory preset, “GRN CENT” appears on the screen first. In case of other colors “RED” or “BLU”, change color by every pressing [3] key.

7. Cover the both red and blue picture lenses with the lens caps to show only the green color.

SUB DEFLECTION ADJUSTMENT ITEM

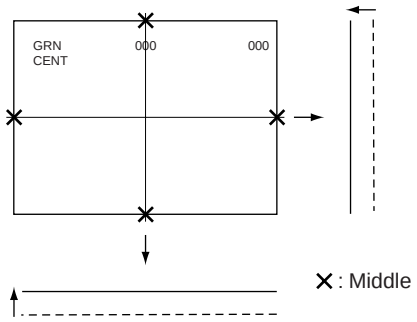
Adjustment O : Yes – : No

Display	Adjustment item	Adjustment type		
		G	R	B
		H/V	H/V	H/V
CENT	CENT	O/O	O/O	O/O
SKEW	SKEW	O/O	O/O	O/O
SIZE	SIZE	–/–	O/O	O/O
LIN	LIN	–/–	O/–	O/–
KEY	KEY	–/–	–/O	–/O
PIN	PIN	–/O	–/O	–/O

[GREEN REGISTRATION ADJUSTMENT]

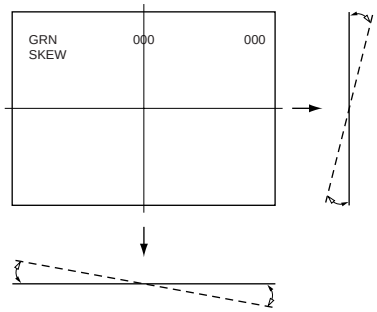
<GREEN CENTER>

1. Select GRN CENT [1] and [4] keys on the remote commander.
2. Adjust the center of crosshatch line goes the middle vertically and horizontally (GRN CENT) with the joystick on the remote commander.



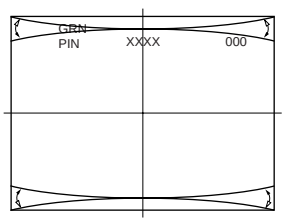
<GREEN SKEW>

1. Select GRN SKEW with the [1] and [4] keys on the remote commander.
2. Adjust the crosshatch line goes straight vertically and horizontally with the joystick on the remote commander.



<GREEN PINCUSHION>

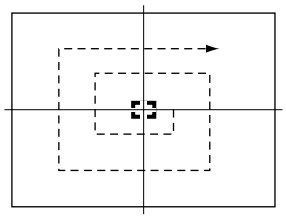
1. Select GRN PIN with the [1] and [4] keys on the remote commander.
2. Adjust the crosshatch line goes straight horizontally with the joystick on the remote commander.



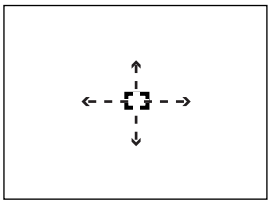
Note : These are required when either severe miss-adjustment or data loss occurred.

<FINE ADJUSTMENT>

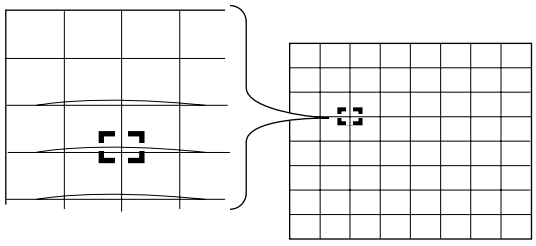
1. Press [9] key on the remote commander to shift to the fine adjustment mode.
   The green cursor (in the GRN mode) appears on the center of the screen.
2. Use the [1] and [4] keys or the joystick on the remote commander, move the cursor (see below) everywhere you want to adjust and adjust with the joystic keys on the remote commander.
   Marker movement by the [1] and [4] keys:



Press once the joystick the cursor turns green to white.
Then you can move the cursor up and down left and right every where you want.



Press once the joystick the cursor stops and returns green, you can adjust around the cursor.



3. Press [9] key on the remote commander to shift to the coarse adjustment mode.

[RED REGISTRATION ADJUSTMENT]

<RED CENTER, SKEW>

1. Cover the blue picture lens with the lens cap to show the green and red colors.
2. Press [3] key on the remote commander to shift the GRN mode to the RED mode.
3. Select RED CENT or RED SKEW with the [1] and [4] keys on the remote commander and adjust while tracking each other alternately.
4. Adjust the red crosshatch lines go straight vertically and horizontally and overlaps the green lines with the joystick on the remote commander.

<RED SIZE, LINEARITY>

1. Select RED SIZE (vertically and horizontally) or RED LIN (vertically) with the [1] and [4] keys on the remote commander and adjust while tracking each other alternately.
2. Adjust the red crosshatch lines go straight vertically and horizontally and overlaps the green lines with the joystick on the remote commander.

<RED KEY, PINCUSHION>

1. Select RED KEY or PINCUSHION with the [1] and [4] keys on the remote commander and adjust while tracking each other alternately.
2. Adjust the red crosshatch lines go straight horizontally and overlaps the green lines
   with the joystick on the remote commander.

Note : These are required when either severe miss-adjustment or data loss occurred.

<FINE ADJUSTMENT>

1. Press [9] key on the remote commander to shift to the fine adjustment mode.
   The red cursor (in the RED mode) appears on the center of the screen.
2. Use the [1] and [4] keys or the joystick on the remote commander, move the cursor everywhere you want to adjust and adjust with the joystick on the remote commander.

[BLUE REGISTRATION ADJUSTMENT]

1. Remove the lens cap from the blue picture lens to show full color.
2. Press [3] key on the remote commander to shift the RED mode to the BLU mode.
3. Adjust BLU CENT, BLU SKEW, BLU SIZE, BLU LIN, BLU KEY and BLU PIN in the same procedure of the red registration adjustment.

[FINAL CHECK]

1. Store the new adjustment (offset) value on the remote control by pressing [MUTING] and [ENTER].
2. Press the FLASH FOCUS button on the front panel.
   (The Offset value is now automatically stored.)
3. Check that no error message appears.
   If an error message appears, recheck.

Note: In case of replacing CRTs, adjust the set-up adjustments (items 3-1 to 3-8) and the registration adjustment (item 3-10). In case of replacing two or three CRTs at the same time, replace and adjust one by one.

3-11. AUTO REGISTRATION ERROR CODE LIST

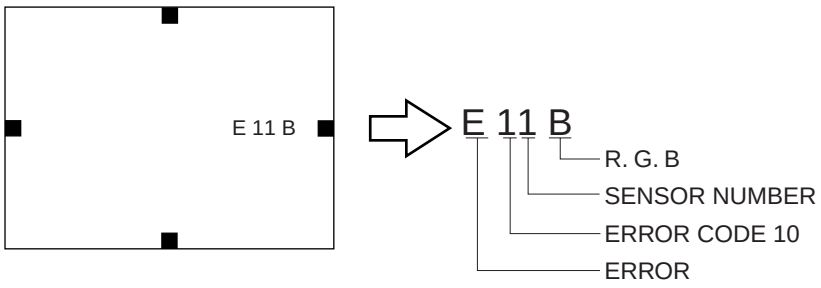
If an error code is displayed after the set has been fully adjusted, correctly, please check the following items: position, tilt and sizing. If either of these adjustments are off, even slightly, the auto-registration pattern will not hit the four sensors properly. This occurs when the internal generator patterns is being flashed on the screen for the sensors to read. Therefore, auto registration (called auto-focus) cannot operate properly causing an error code to be displayed. In order for this function to operate properly, correct position, tilt and size must be adjusted properly.

[ERROR CODE LIST]

ERROR CODE	DISCRIPTION	NOTE
00	No Error	
10	Sensor Output Level Low	* Check wiring, beam position, sensor. 0 : Upper Center 1 : Middle Left 2 : Middle Right 3 : Lower Center
20	Sensor Output Level High	* Check OP-amp circuit. 0 : Upper Center 1 : Middle Left 2 : Middle Right 3 : Lower Center
30	Adjustment Loop Counter Overflow	* Check the registring information on the convergence board.
40	Regi Data Overflow	* Check the convergence yoke driver ICs.
50	Regi Data Overflow	
60	Offset Overflow	* Convergence patterns displayed are out of normal range.
70	Offset Overflow	

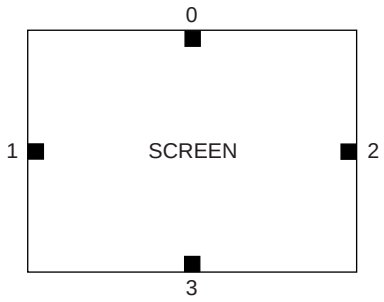
* In case of multiple error, last error is displayed.

• ERROR CODE SCREEN DISPLAY



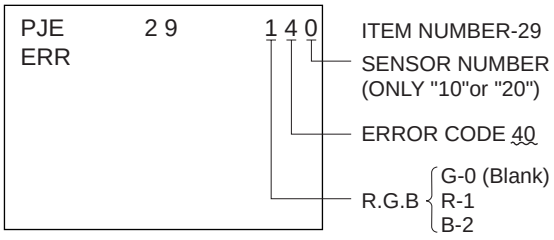
* Error code will be displayed on center of screen for 3 seconds.

[SENSOR POSITION]



0 : UPPER SENSOR
1 : LEFT SENSOR
2 : RIGHT SENSOR
3 : LOWER SENSOR

• ERROR CODE DISPLAY IN REGI SERVICE MODE



SECTION 4
CIRCUIT ADJUSTMENTS

4-1. TV INPUT SUB CONTRAST ADJUSTMENT (VPNT-SCON)

1. Receive the color-bar signal.
2. Mode : Personal 1 or 2.
   PICTURE : maximum
   COLOR : maximum
   BRIGHTNESS : center
   TRINITONE : medium
   SERVICE DATA VPNT SCON : 7
3. Set to service mode.
4. Connect an oscilloscope between pin ⑦ of CN204 (A board) and ground.
5. Select " VPNT-SCON ", and adjust so that the wave from level is 1.80 ± 0.05Vp-p.
6. Write the data into memory.
   MUTING → ENTER

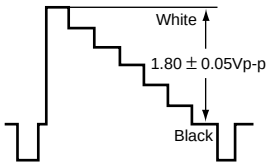


Fig. 4-1

4-2. VIDEO INPUT SUB-HUE AND SUB-COLOR ADJUSTMENT (VPNT-SHUE, SCOL)

1. Select VIDEO1 input and supply the color-bar signal.
2. Mode : Personal 1 or 2.
   PICTURE : maximum
   COLOR : center
   BRIGHTNESS : center
   TRINITONE : medium
   SERVICE DATA VPNT-SHUE : 7
   VPNT-SCOL : 7
3. Set to service mode.
4. Connect an oscilloscope between pin ⑤ of CN204 (A board) connecter and ground.
5. Select " VPNT-SHUE, SCOL ", and adjust them to have VB1 = VB4 and VB2 = VB3 in the waveform levels.
6. Increase SCOL by 2 steps.
7. Write the data into memory.
   MUTING → ENTER

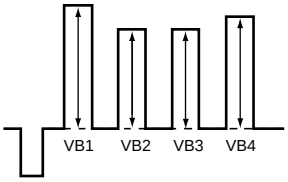


Fig. 4-2

4-3. COMPONENT INPUT SUB-HUE AND SUB-COLOR ADJUSTMENT (DAC-UVSH, UVSC)

1. Select VIDEO 4 and supply the color-bar signal.
   VIDEO input
2. Mode : Personal 1 or 2.
   PICTURE : maximum
   COLOR : center
   BRIGHTNESS : center
   TRINITONE : medium
   SERVICE DATA DAC UVSH : 31
   DAC UVSC : 31
3. Set to service mode.
4. Connect an oscilloscope between pin ⑤ of CN204 (A board) connecter and ground.
5. Select " DAC-UVSH, UVSC ", and adjust them to have VB1 = VB4 and VB2 = VB3 in the waveform levels.
6. Write the data into memory.
   MUTING → ENTER

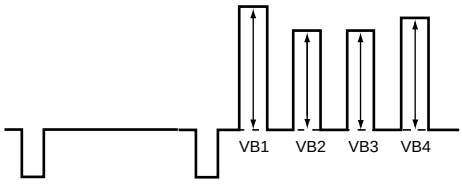


Fig. 4-3

4-4. P & P SUB CONTRAST ADJUSTMENT (SC-SYDR)

1. Receive the signal.
   TV terminal (sub) : color-bar signal
   VIDEO terminal (main) : no signal
2. Set to service mode and set to P & P mode.
3. Connect an oscilloscope between pin ⑦ of CN204 (A board) and ground.
4. Select " SC-SYDR ", and adjust so that the wave from level is 1.65 ± 0.05Vp-p.
5. Write the data into memory.
   MUTING → ENTER

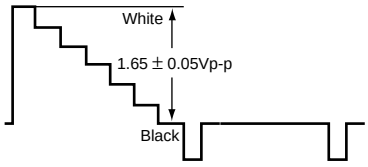


Fig. 4-4

4-5. SUB-HUE , SUB-COLOR AND MAIN CONTRAST ADJUSTMENT (MC-MYDR, MSHU, MSCL, SC-SSHU, SSCL)

1. Receive the color-bar signal.
2. Mode : Personal 1 or 2.
   PICTURE : maximum
   COLOR : center
   BRIGHTNESS : center
   TRINITONE : medium
   SERVICE DATA MC-MYDR : 22
   MC-MSHU : 31
   MC-MSCL : 31
   SC-SSHU : 31
   SC-SSCL : 31
3. Set to service mode and set to P & P model .
4. Connect an oscilloscope between pin ⑤ of CN204 (A board) connecter and ground.
5. Select " MC-MYDR", and adjust them to have VB1 = VB5 in the waveform levels.
6. Select " MC-MSCL, SC-SSCL" and adjust so that the wave form shows VB1=VB4 and VB5=VB8.
7. Select " MC-MSHU, SC-SSHU" and adjust so that the wave form shows VB2=VB3 and VB6=VB7.
8. Write the data into memory.
   MUTING → ENTER

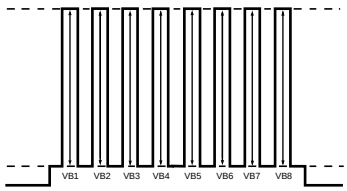


Fig. 4-5

4-6. BAR DISPLAY POSITION ADJUSTMENT (OP-DISP)

1. Receive the monoscope signal.
2. Set to service mode.
3. Push " PICTURE +" . (Bar is displayed)
4. Select " OP-DISP " , and adjust so that the bar is as shown in the figure.
5. Write the data into memory.
   MUTING → ENTER

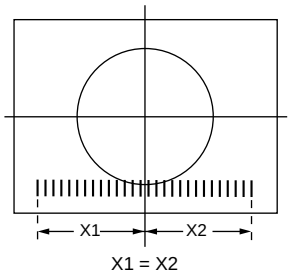


Fig. 4-6

4-7. PIP POSITION ADJUSTMENT (PI-PIPH, PIPV)

1. Set the PIP mode.
2. Receive the monoscope signal on the main/sub picture.
3. Check the sub picture position.

$$X1\text{-}X2 \leqq 0.25sq$$
$$X1\text{-}X2 \leqq 0.25sq$$

4. If necessary set to service mode and adjust "PIPH", "PIPV".
5. Write the data into memory.
   MUTING → ENTER

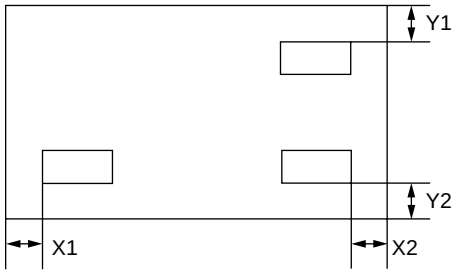


Fig. 4-7

SECTION 5
SAFETY RELATED ADJUSTMENTS

[G BOARD]

5-1. HV REGULATION CIRCUIT CHECK AND ADJUSTMENT

When replacing the following components marked with ◪ on the schematic diagram always check HV regulation, and if necessary re-adjust.

⊠ : C517

◪ : C517, C521, C522
IC654, L504
T502, T504 (FBT)
D.Y, A board, G board

OPERATION CHECK

1. Connect a HV static voltmeter to the unconnected plug of the high-voltage block. (Fig.5-1)
2. Power on the set.
3. Receive the dot signal. (PICTURE and BRIGHTNESS to minimum)
4. Check that the HV static voltmeter is reading $31.00^{+0.95}_{-1.45}$ kVdc.

HV Regulation adjustment

1. Connect a HV static voltmeter to the unconnected plug of the hight-voltage block.
2. Power on the set.
3. Receive the dot signal. (PICTURE and BRIGHTNESS to minimum)
4. If anode voltage is 31.95kV or higher, replace C517 of 470PF/2kV with that of 680PF/2kV, and check if the voltage is within the standard range.
5. If anode voltage is 29.66kV or lower, replace C517 of 470PF/2kV with that of 100PF/2kV, and check if the voltage is within the standard range.

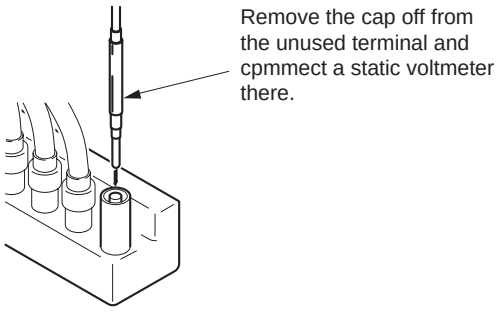


Fig. 5-1

5-2. HV HOLD DOWN CIRCUIT OPERATION CHECK AND ADJUSTMENT

When replacing the following components marked with ◪ on the schematic diagram always check hold-down voltage and if necessary re-adjust.

⊠ : R536, R545

◪ : C516, C536
D506, D507, D522
IC206, IC502, IC654
L504, R511, R522, R536, R538, R545, R548, R584
T502, T504 (FBT)
D.Y, A board, G board

OPERATION CHECK

1. Remove CN652 connecter.
2. Short-circuit across TP-PROT and ground.
3. Connect a HV static voltmeter to the unconnected plug of the high-voltage block.
4. Connect a 220 Ω/200W variable resistor, across pin ② and pin ① of CN652 and connect an external dc power supply unit (200V, class 2A) to pin ③ of CN652.
5. First turn on the external power supply (+B=135V), then turn on the power of the set.
6. Receive the dot signal. (PICTURE and BRIGHTNESS to minimum)
7. Gradually increase the value of the external dc power supply and check that the hold-down circuit operates at a static voltmeter reading of 33.5±0.95kVdc when the raster disappears.

HV HOLD-DOWN ADJUSTMENT

1. Repeat steps ① ~ ⑦ as above.
2. If hold down voltage is 34.45kV or higher, remove R536, mount a resistor (150kΩ, 1/4W : RN) onto R545 instead, and check again if the hold-down voltage is within the standard range.
3. If hold down voltage is 32.55kV or lower, mount a resistor (220kΩ, 1/4W : RN) onto R536 and check again if the hold-down voltage is within the standard range.

NOTE : Please finish the adjustment as soon as possible

5-3. +B MAX VOLTAGE CONFIRMATION

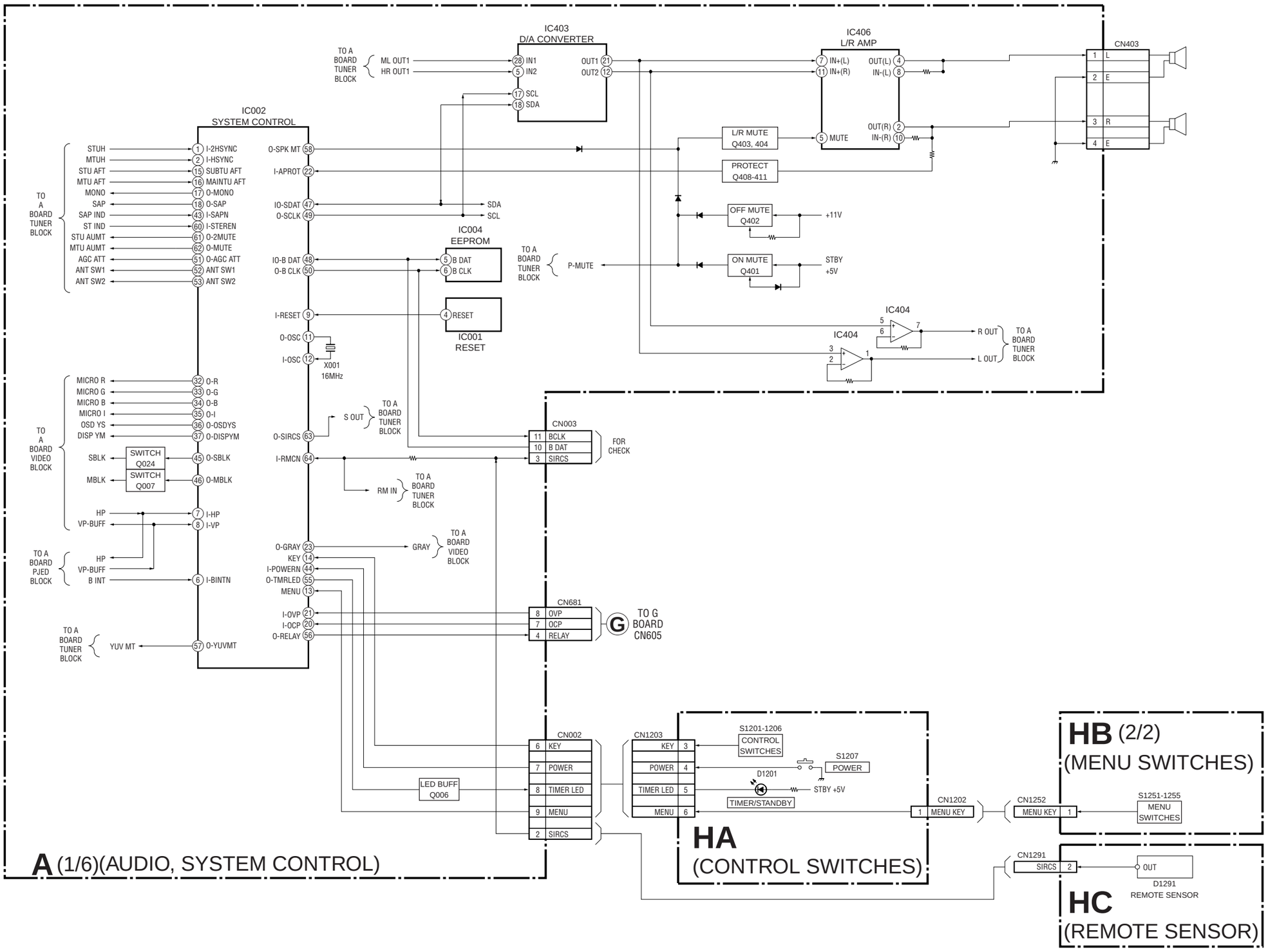
The following adjustments should always be performed when replacing IC654.

1. Supply 130VAC to with variable autotransformer.
2. Input a dot signal.
3. Set the PICTURE control and the BRIGHTNESS controls to minimum.
4. Confirm the voltage of G BOARD TP135V is less than 137.0Vdc.
5. If step 4 is not satisfied, replace IC654 and repeat above steps.

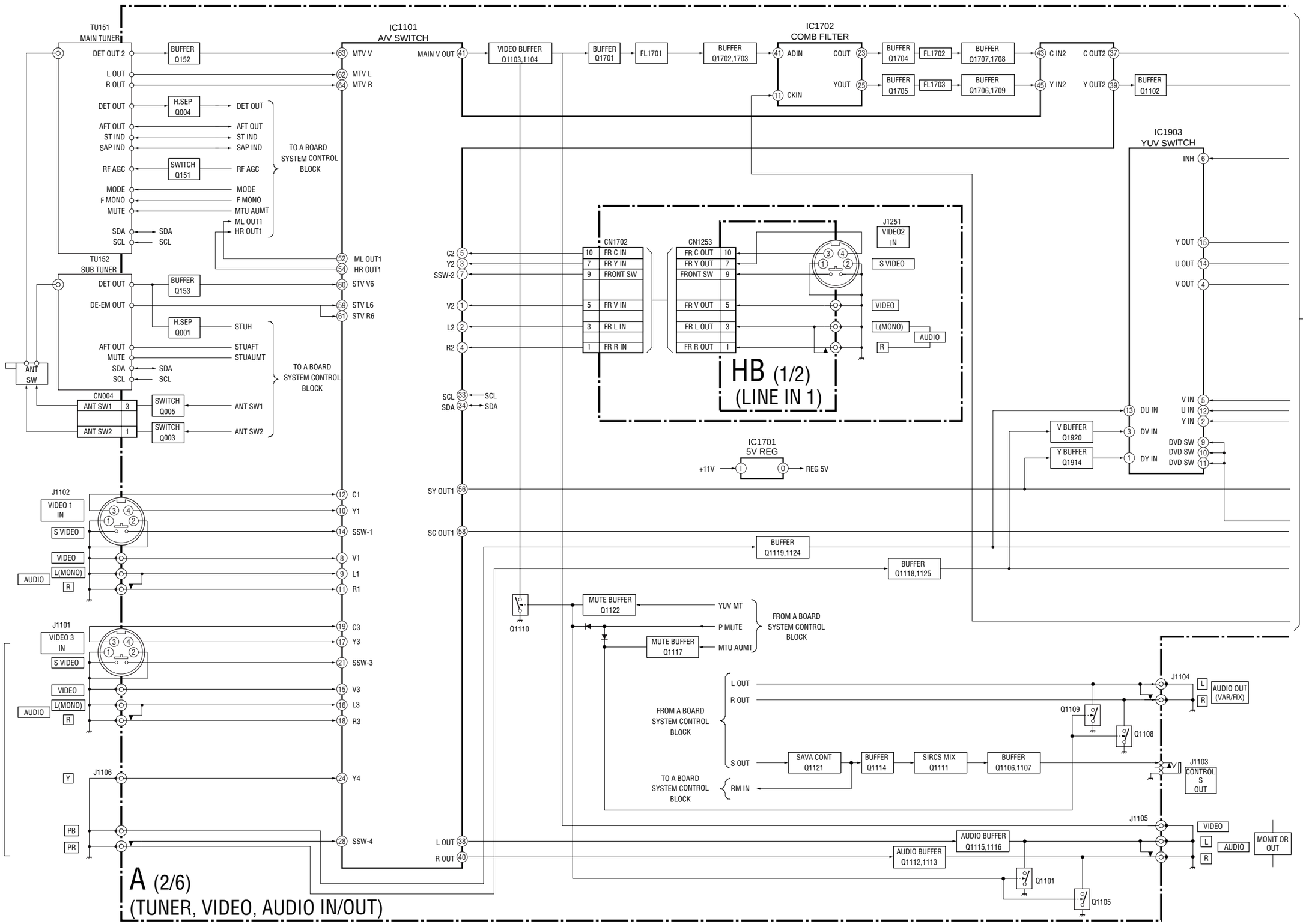
5-4. +B OVP CONFIRMATION

1. Connect an external dc power supply to TP OVP.
2. Supply 120VAC to variable autotransformer.
3. Set PICTURE and the BRIGHTNESS controls to minimum.
4. Gradually turn the external dc power supply, and check if OVP works properly when the voltage of the external dc power supply is between 139.0 ~ 155.0V.

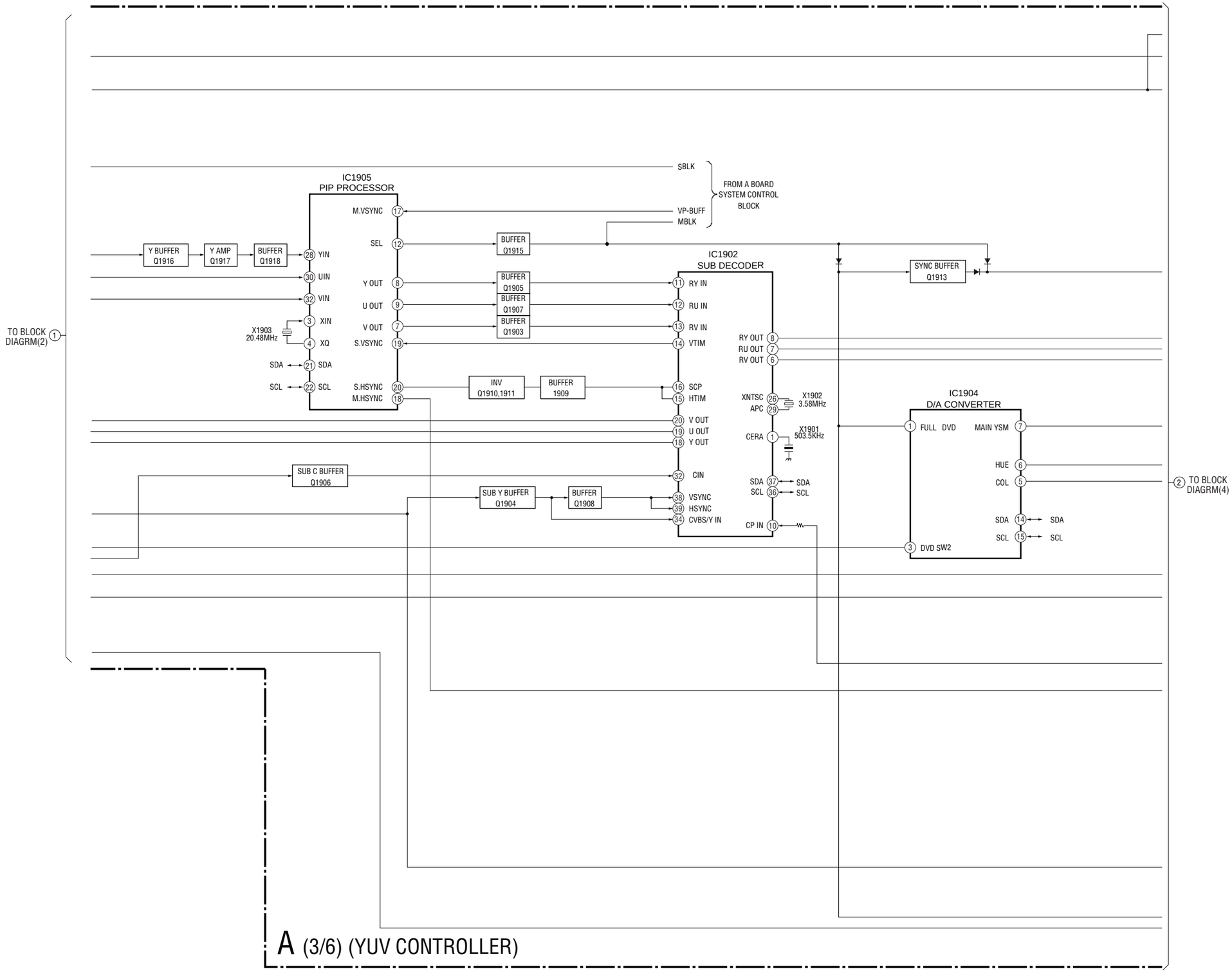
6-1. BLOCK DIAGRAM (1)



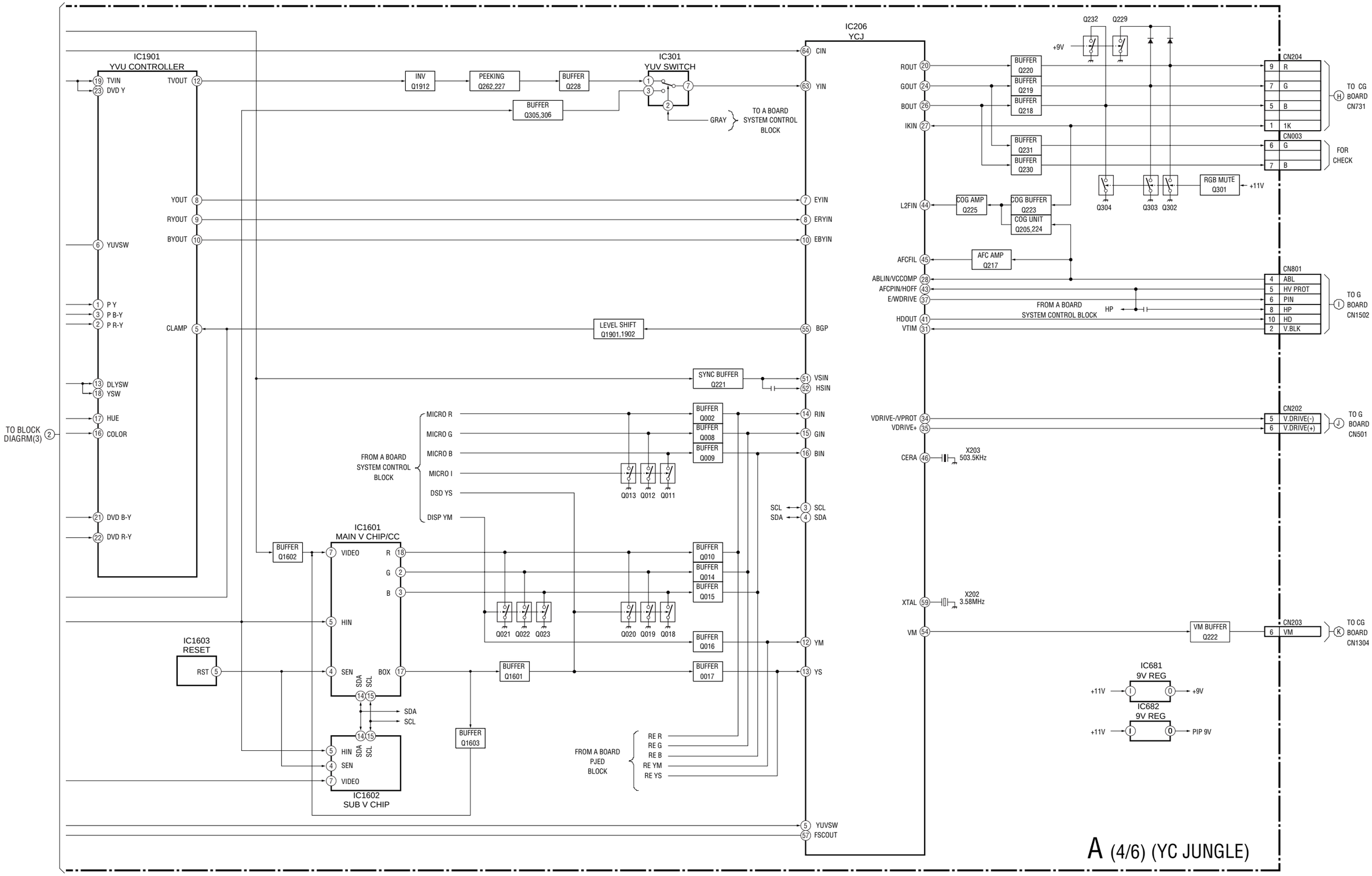
BLOCK DIAGRAM (2)



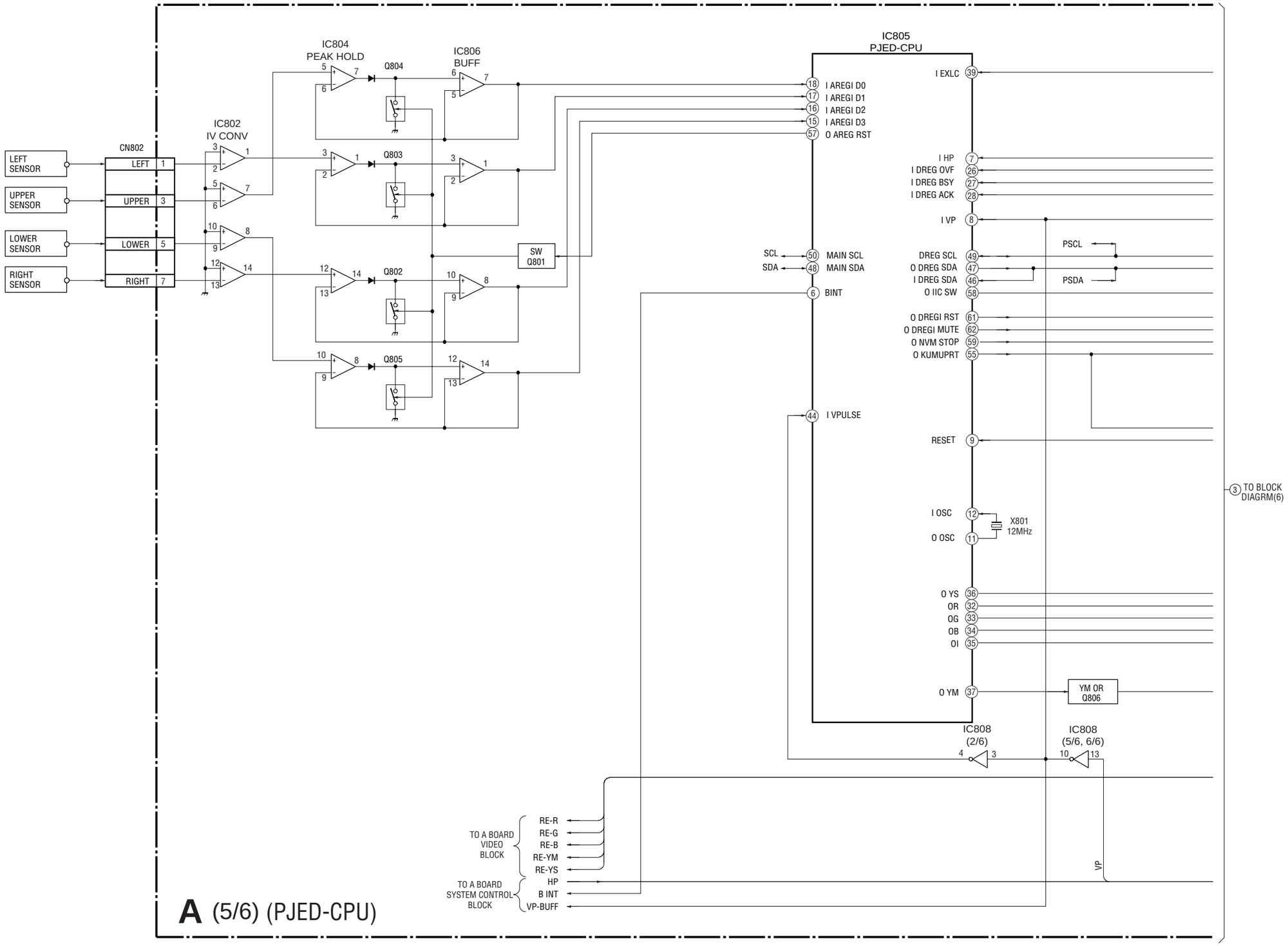
BLOCK DIAGRAM (3)



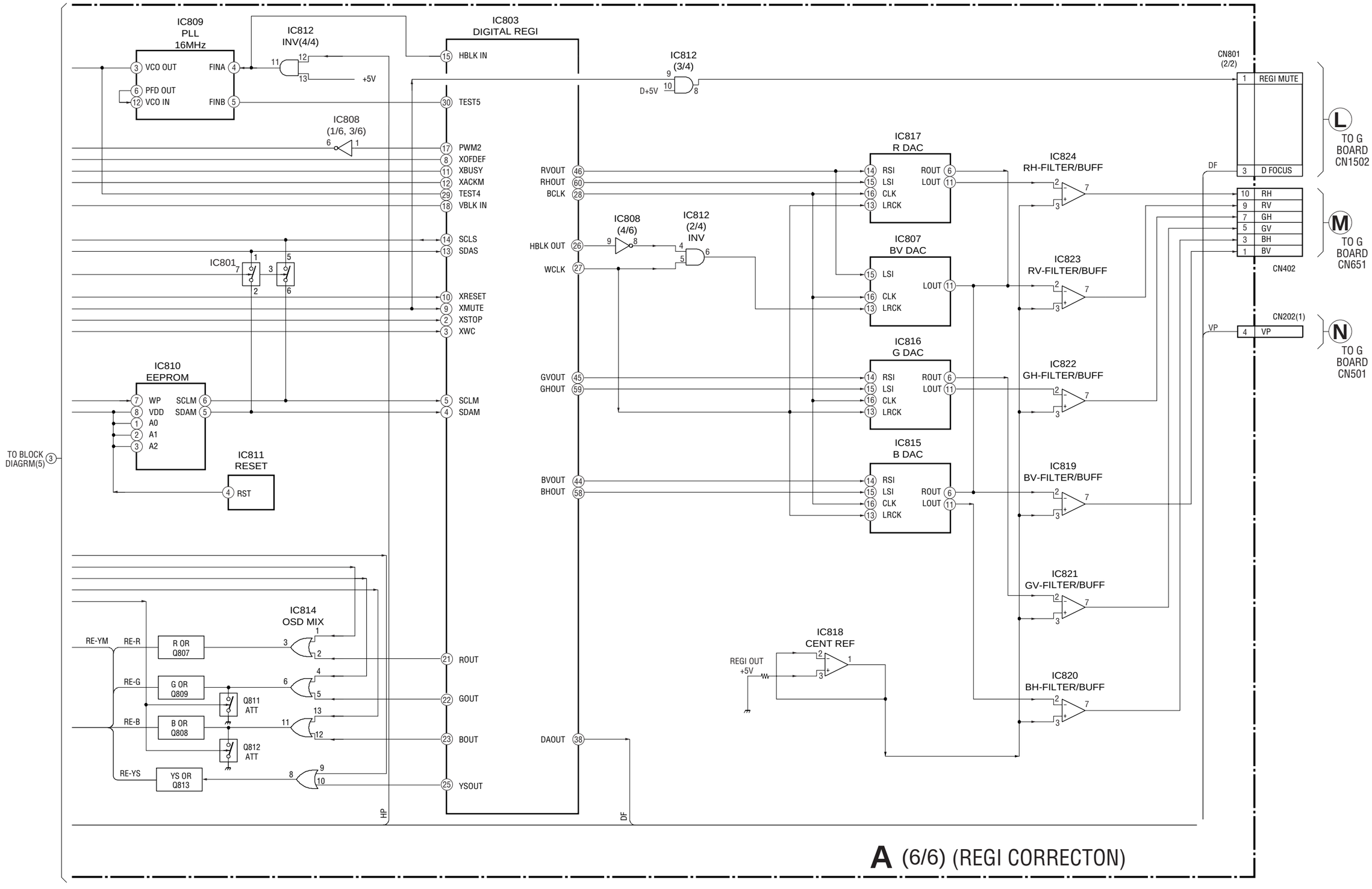
BLOCK DIAGRAM (4)



BLOCK DIAGRAM (5)

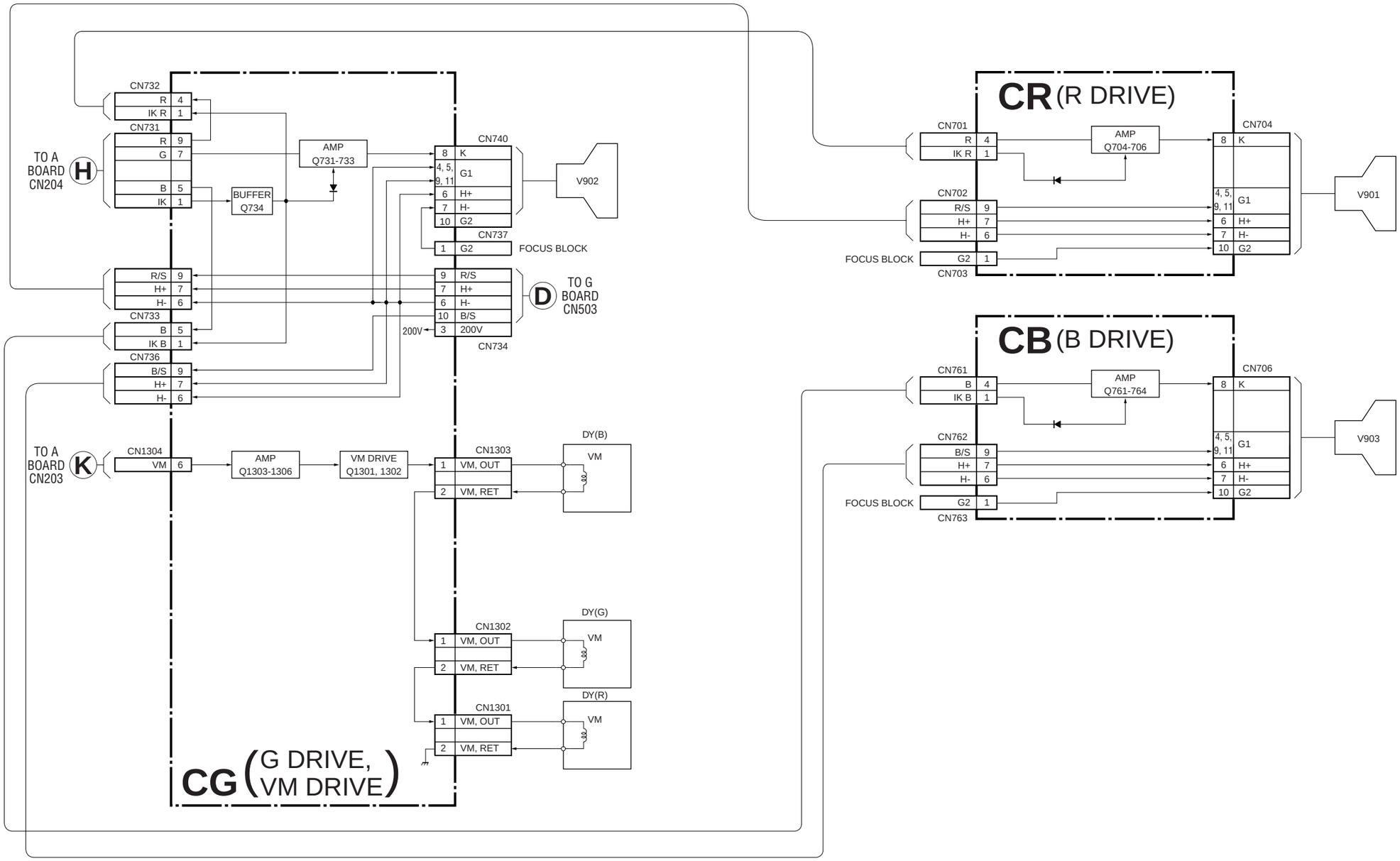


BLOCK DIAGRAM (6)

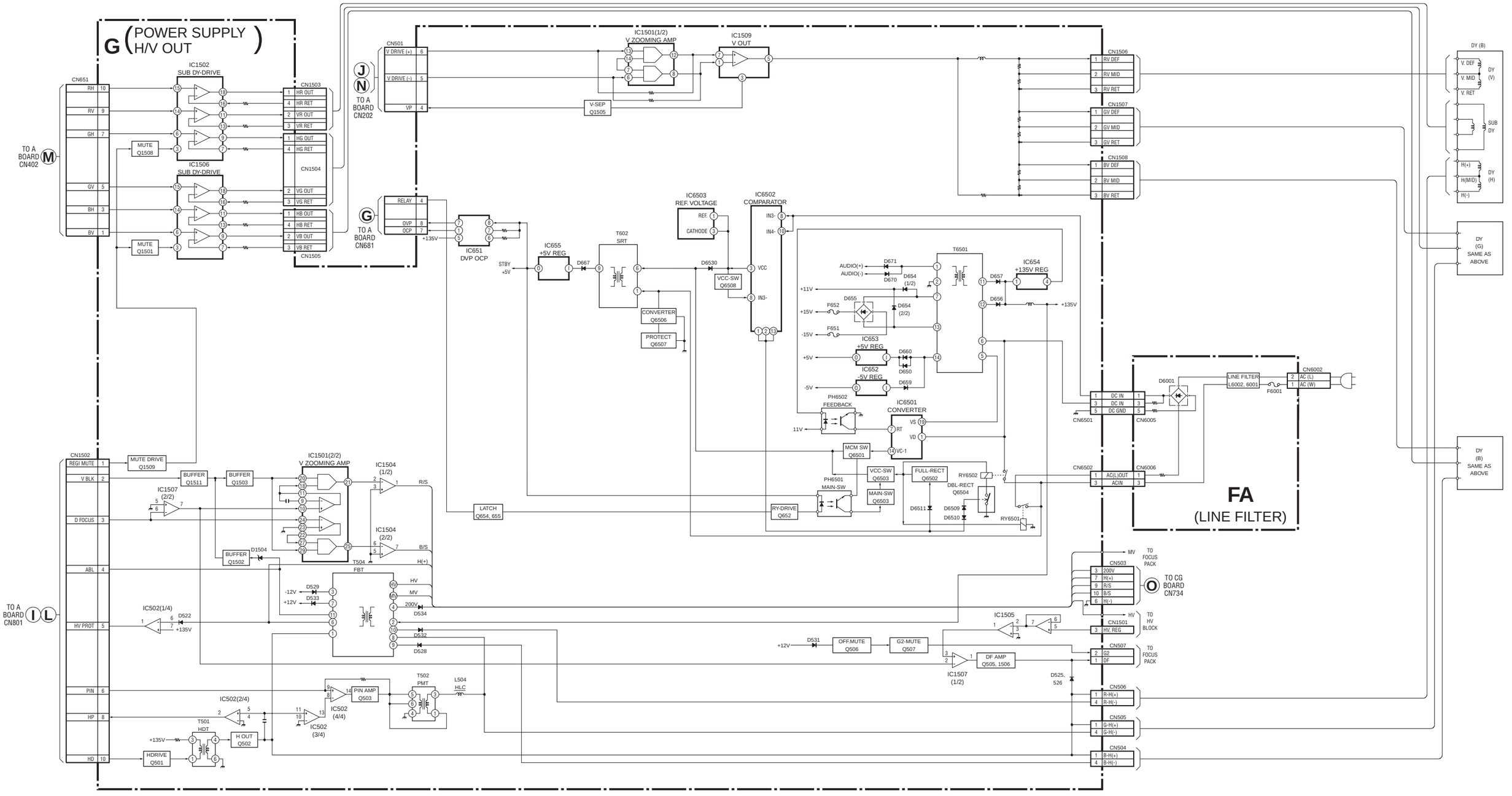


A (6/6) (REGI CORRECTON)

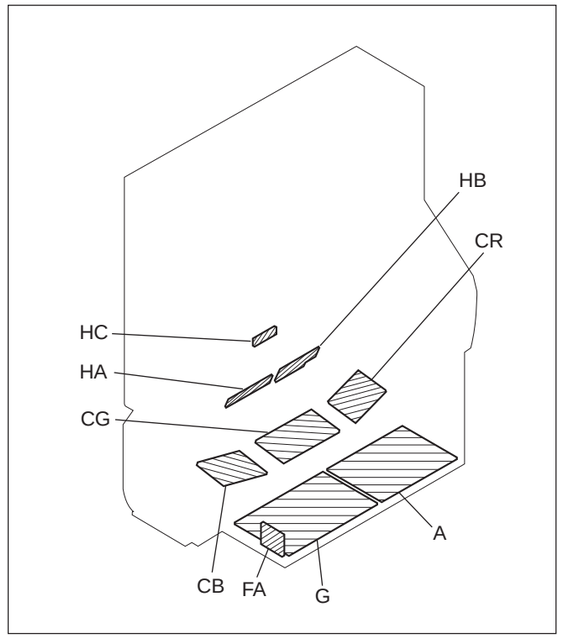
BLOCK DIAGRAM (7)



BLOCK DIAGRAM (8)



6-2. CIRCUIT BOARDS LOCATION



Note: The symbol display is on the component slde.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

The symbol indicate fast operating fuse. Replace only with fuse of same rating as maked.

Note: Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

Le symbole indique une fusible a action rapide. Doit etre remplacee par une fusible de meme yaleur, comme maque.

6-3. SCHEMATIC DIAGRAMS

Note:
- Capacitors without voltage indication are all 50V.
- All resistors are in ohms.
  kΩ=1000Ω, MΩ=1000kΩ
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

  Pitch : 5mm
  Rating electrical power : 1/4 W
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-chassis.
- The components identified by ⧓ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⧓ and repeat the adjustment until the specified value is achieved. (Refer to R536,R545 and C517 adjustment on Page 23.)
- When replacing the part in below table, be sure to perform the related adjustment.

Part replaced (◪)	Adjustment (⧓)
C517, C521, C522, IC654, L504, T502, T504, DY, A board, G board	HV Regurator (C517)
C516, C536, D506, D507, D522, IC206, IC502, IC654, L504, R511, R522, R536, R538, R545, R548, R584, T502, T504, DY, A board, G board	HV HOLD-DOWN (R536, R545)

- Readings are taken with a NTSC color-bar signal input.
- Readings are taken with a 10MΩ digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
  ∗ : Measurement impossibillity.
- Circled numbers are waveform references.
- : B+ bus.
- : B– bus.
- : signal path.(RF)

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Divided schematic diagram

  Schematic diagrams of A and G boards are divided into several pieces. Information to where the line is to be connected is printed at the end of each.

  For example, [**TO A1/5,A2/5_1**] means the line is connected to Ref. No. 1 of A(1/5) and A(2/5) schematic diagrams.

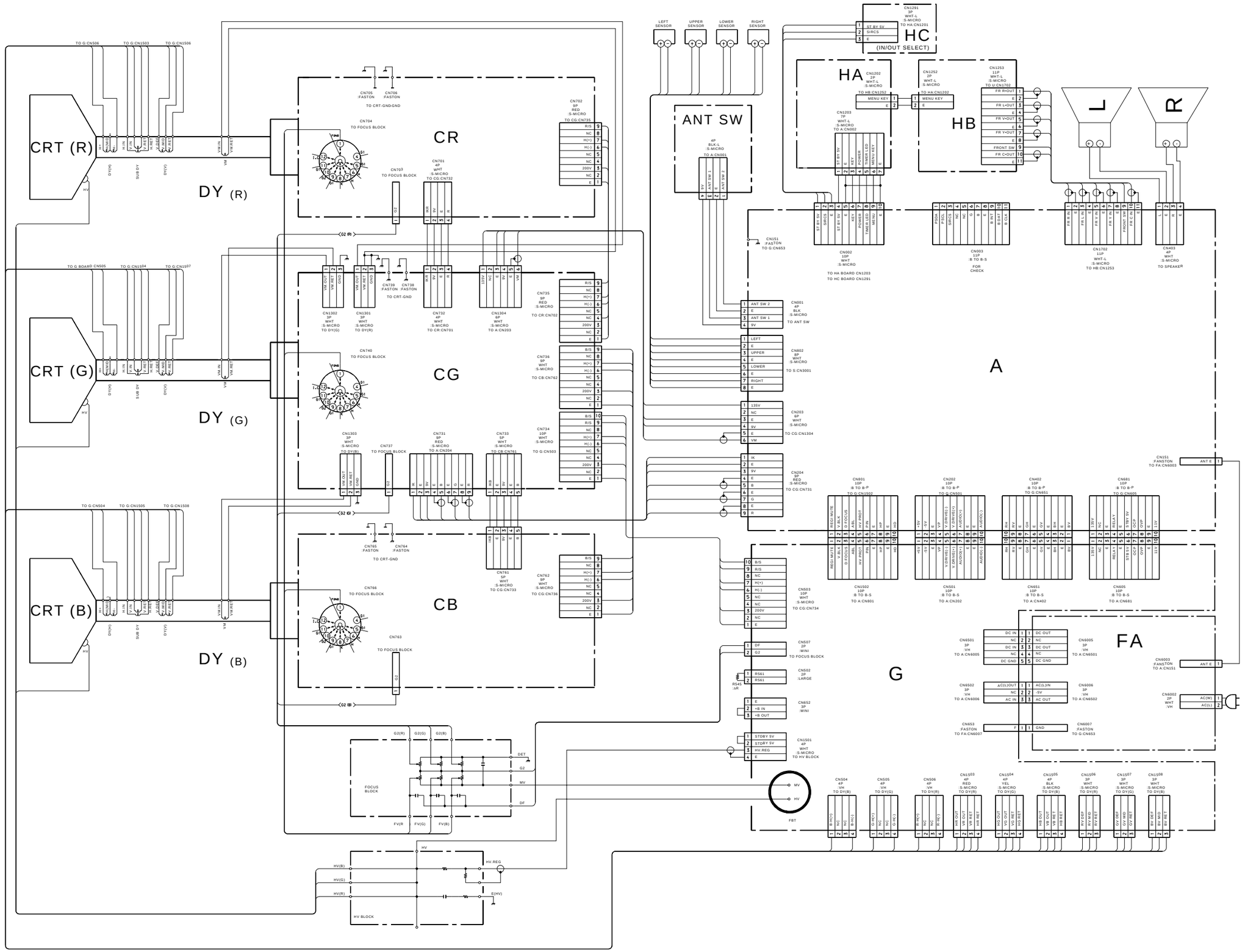
TO A1/5,A2/5_1
- Ref. No.
- Name of divided schematic diagram

Terminal name of semiconductors in silk screen printed circuit (∗)

	Device	Printed symbol	Terminal name	Circuit
①	Transistor		Collector / Base Emitter	
②	Transistor		Collector / Base Emitter	
③	Diode		Cathode — Anode	
④	Diode		Cathode / Anode (NC)	
⑤	Diode		Cathode / Anode (NC)	
⑥	Diode		Common / Anode Cathode	
⑦	Diode		Common / Anode Cathode	
⑧	Diode		Common / Anode Anode	
⑨	Diode		Common / Anode Anode	
⑩	Diode		Common / Cathode Cathode	
⑪	Diode		Common / Cathode Cathode	
⑫	Diode		Anode Anode Cathode / Cathode Anode Anode	
⑬	Transistor (FET)		Drain / Source Gate	
⑭	Transistor (FET)		Drain / Source Gate	
⑮	Transistor (FET)		Source Drain Gate	
⑯	Transistor		Emitter Collector Base	
⑰	Transistor		C2 B1 E1 / E2 B2 C1	
⑱	Transistor		C1 B2 E2 / E1 B1 C2	
⑲	Transistor		C1 B2 E2 / E1 B1 C2	
⑳	Transistor		C1 B2 E2 / E1 B1 C2	
㉑	Transistor		E2 B1 E1 / C2 C1(B2)	
㉒	Transistor		(B2) B1 E1 E2 / C1 C2	
㉓	Transistor		(B2) E2 E1 B1 / C2 C1	
–	Discrete semiconductot			

(Chip semiconductors that are not actually used are included.)

Ver.1.6


CRT (R)
DY (R)
CR
CRT (G)
DY (G)
CG
CRT (B)
DY (B)
CB
A
G
FA
HC
(IN/OUT SELECT)
HA
HB
ANT SW
L
R
FBT
FOCUS BLOCK
HV BLOCK
TO G:CN506
TO G:CN1503
TO G:CN1506
TO G:CN504
TO G:CN1505
TO G:CN1508
TO G BOARD CN505
TO G:CN1504
TO G:CN1507
TO CRT-GND-GND
TO CRT-GND
TO FOCUS BLOCK
TO CG:CN735
TO CR:CN702
TO CB:CN762
TO G:CN503
TO CG:CN731
TO CG:CN732
TO CG:CN734
TO CG:CN736
TO A:CN001
TO A:CN801
TO A:CN202
TO A:CN402
TO A:CN681
TO A:CN6501
TO A:CN6502
TO A:CN6503
TO A:CN6504
TO A:CN6505
TO A:CN6506
TO A:CN6507
TO A:CN6508
TO HA:CN1201
TO HB:CN1252
TO HA:CN1202
TO U:CN1702
TO A:CN002
TO HA BOARD CN1203
TO HC BOARD CN1291
TO HB:CN1253
TO A:CN1253
TO A:CN1203
TO A:CN1291
TO A:CN653
TO S:CN3001
TO A:CN1304
TO A:CN203
TO A:CN204
TO A:CN1502
TO A:CN1501
TO A:CN1503
TO A:CN1504
TO A:CN1505
TO A:CN1506
TO A:CN1507
TO A:CN1508
TO FA:CN6003
TO A:CN6005
TO A:CN6006
TO A:CN6007
TO SPEAKER
TO HV BLOCK
TO FOCUS BLOCK
TO CRT-GND
TO FOCUS BLOCK
TO FOCUS BLOCK
TO FOCUS BLOCK

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A B C D E F G H I J

TU151 MAIN TUNER
* BTF-WG411:XR432N90
BTF-WL411:XR432K90

TU152 BTF-FA401 SUB TUNER

CN1702 11P WHT :S-MICRO
TO HB BOARD CN1253

CN151 :FASTON TO G BOARD CN653

CN205 :FASTON

IC682 PQ09RD11 9VREG

IC1101 CXA2079Q A.V-SWITCH 90H

J1102 J1101 J1106 J1105 J1104 J1103

VIDEO 1 IN
VIDEO 3 IN
S VIDEO
VIDEO
AUDIO
L (MONO)
COMPONENT
RB
RR
MONITOR OUT
AUDIO (VAR/FIX) OUT
CONTROL S OUT

DET OUT
STBY 5V
MTU AUMT
YUV MT
S-OUT
RM-IN
SDA
SCL

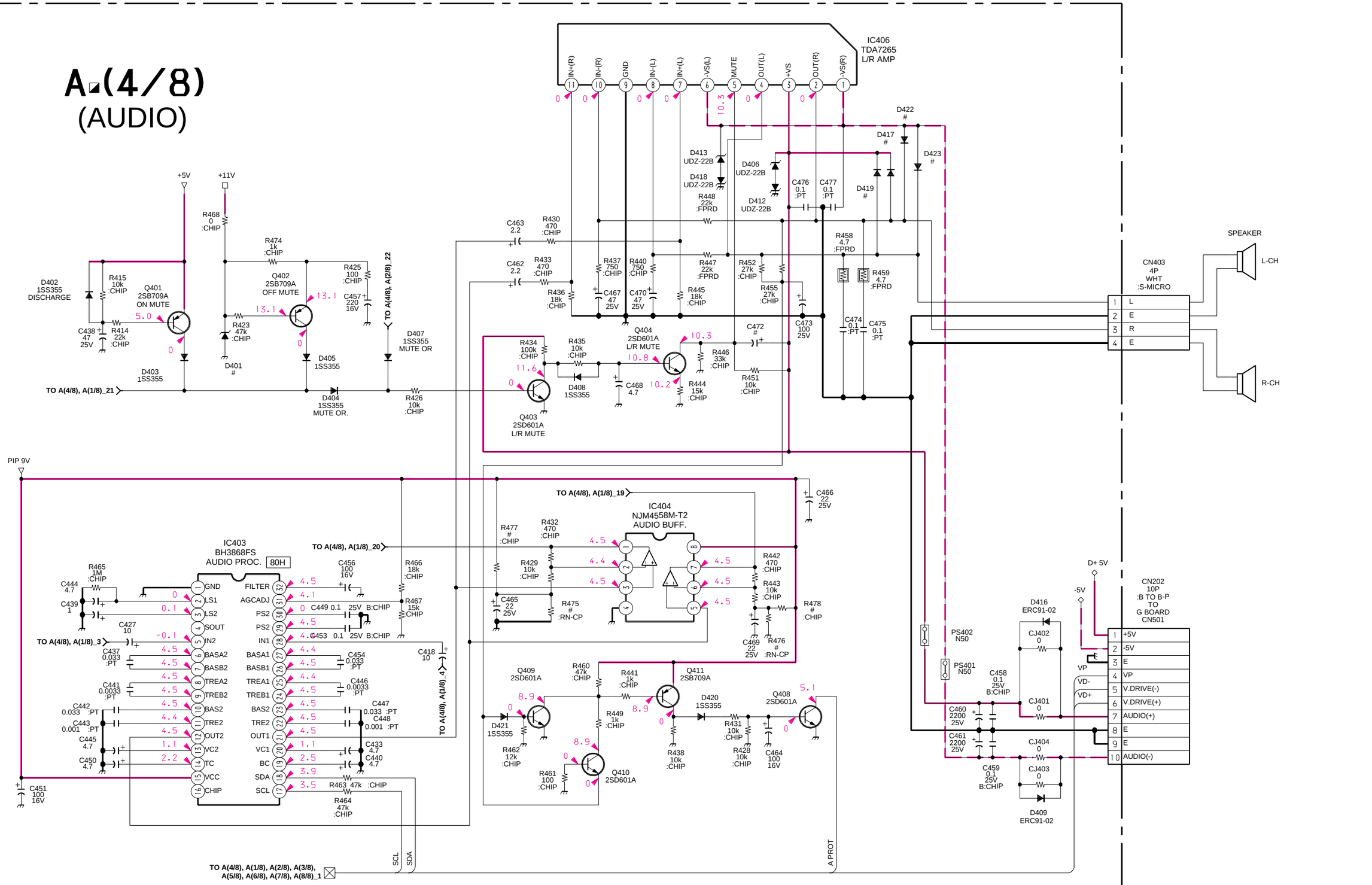
TO A(1/8), A(2/8), A(3/8), A(4/8), A(5/8), A(6/8), A(7/8), A(8/8) _1

A2(1/8)
(TUNER,AV SWITCH)

A-(2/8)
(SYSTEM CONTROL)

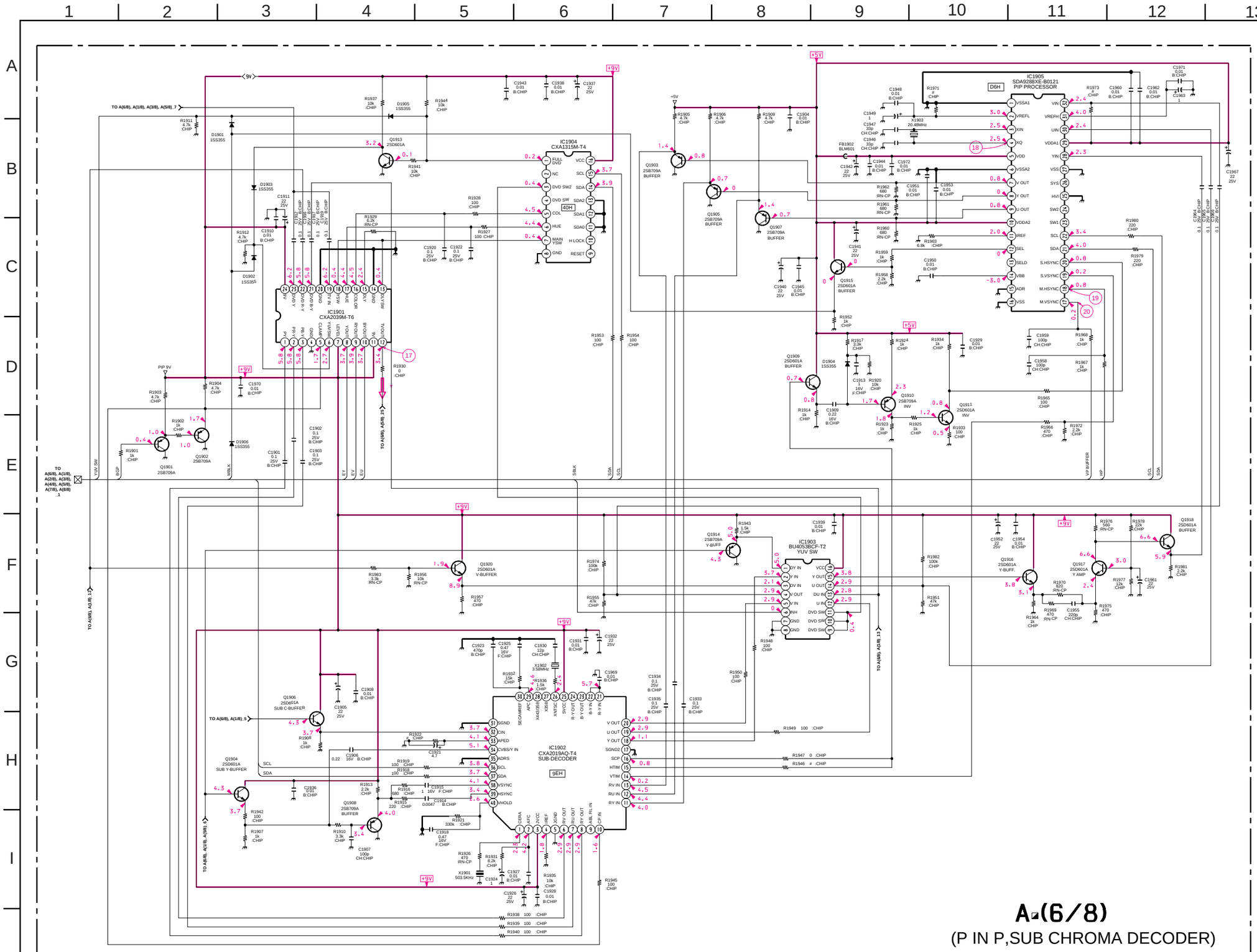
A-(3/8)
(YC JUNGLE)

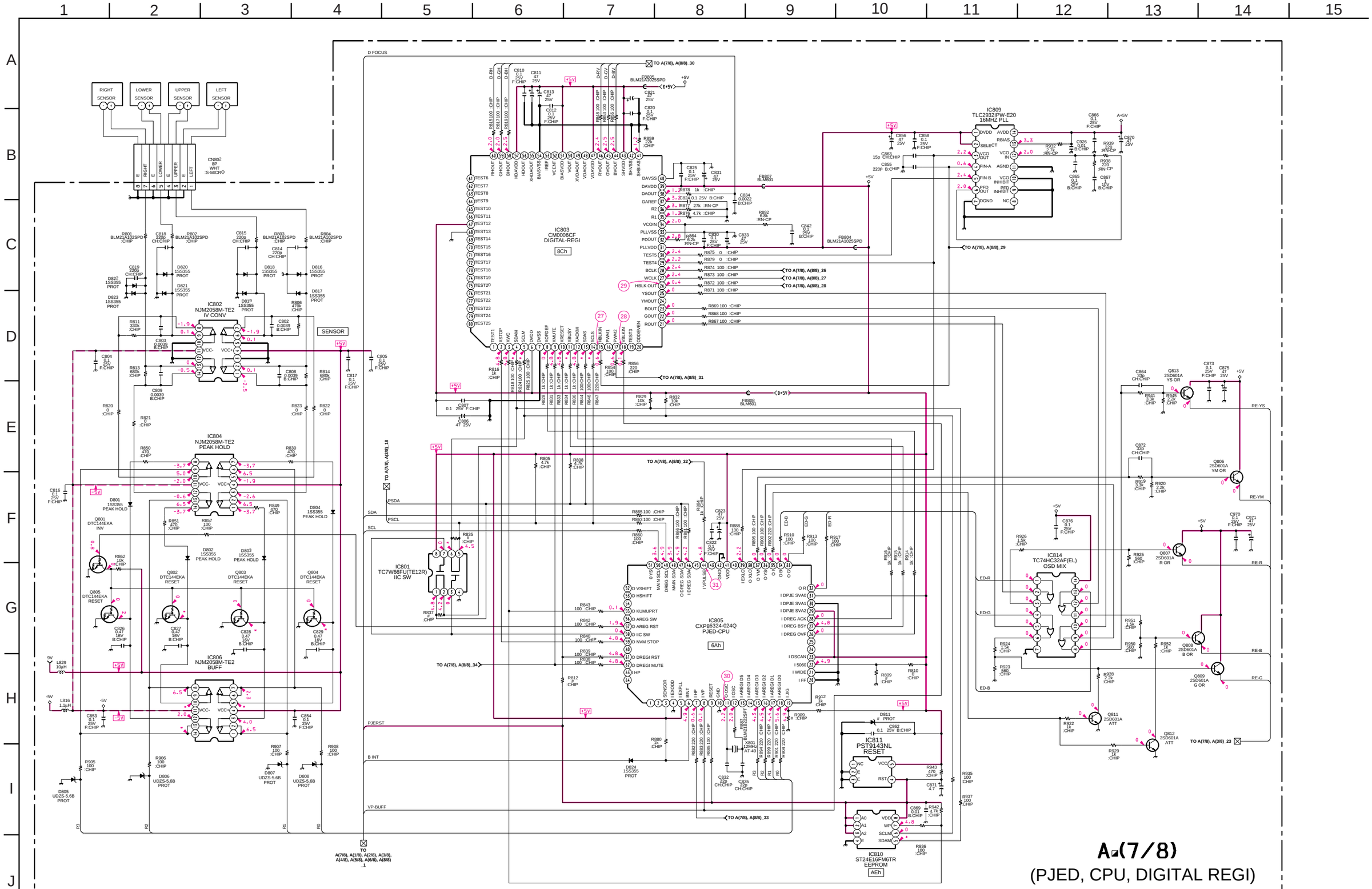
A-(4/8)
(AUDIO)


IC406
TDA7265
L/R AMP
IN+(R)
IN-(R)
GND
IN-(L)
IN+(L)
-VS(L)
MUTE
OUT(L)
+VS
OUT(R)
-VS(R)
SPEAKER
L-CH
R-CH
CN403
4P
WHT
:S-MICRO
+5V
+11V
D402
1SS355
DISCHARGE
Q401
2SB709A
ON MUTE
Q402
2SB709A
OFF MUTE
D403
1SS355
D404
1SS355
MUTE OR.
D405
1SS355
D407
1SS355
MUTE OR
TO A(4/8), A(2/8)_22
TO A(4/8), A(1/8)_21
Q403
2SD601A
L/R MUTE
Q404
2SD601A
L/R MUTE
D408
1SS355
Q409
2SD601A
Q410
2SD601A
Q411
2SB709A
D420
1SS355
D421
1SS355
Q408
2SD601A
D413
UDZ-22B
D418
UDZ-22B
D406
UDZ-22B
D412
UDZ-22B
D417
#
D419
#
D422
#
D423
#
PIP 9V
IC403
BH3868FS
AUDIO PROC.
80H
GND
LS1
LS2
SOUT
IN2
BASA2
BASB2
TREA2
TREB2
BAS2
TRE2
OUT2
VC2
TC
VCC
CHIP
FILTER
AGCADJ
PS2
PS2
IN1
BASA1
BASB1
TREA1
TREB1
BAS2
TRE2
OUT1
VC1
BC
SDA
SCL
TO A(4/8), A(1/8)_3
TO A(4/8), A(1/8)_20
TO A(4/8), A(1/8)_4
IC404
NJM4558M-T2
AUDIO BUFF.
TO A(4/8), A(1/8)_19
TO A(4/8), A(1/8), A(2/8), A(3/8),
A(5/8), A(6/8), A(7/8), A(8/8)_1
SCL
SDA
A PROT
D+ 5V
-5V
VP
VD-
VD+
CN202
10P
:B TO B-P
TO
G BOARD
CN501
+5V
-5V
E
VP
V.DRIVE(-)
V.DRIVE(+)
AUDIO(+)
E
E
AUDIO(-)
PS402
N50
PS401
N50
D416
ERC91-02
D409
ERC91-02
CJ402
CJ401
CJ404
CJ403

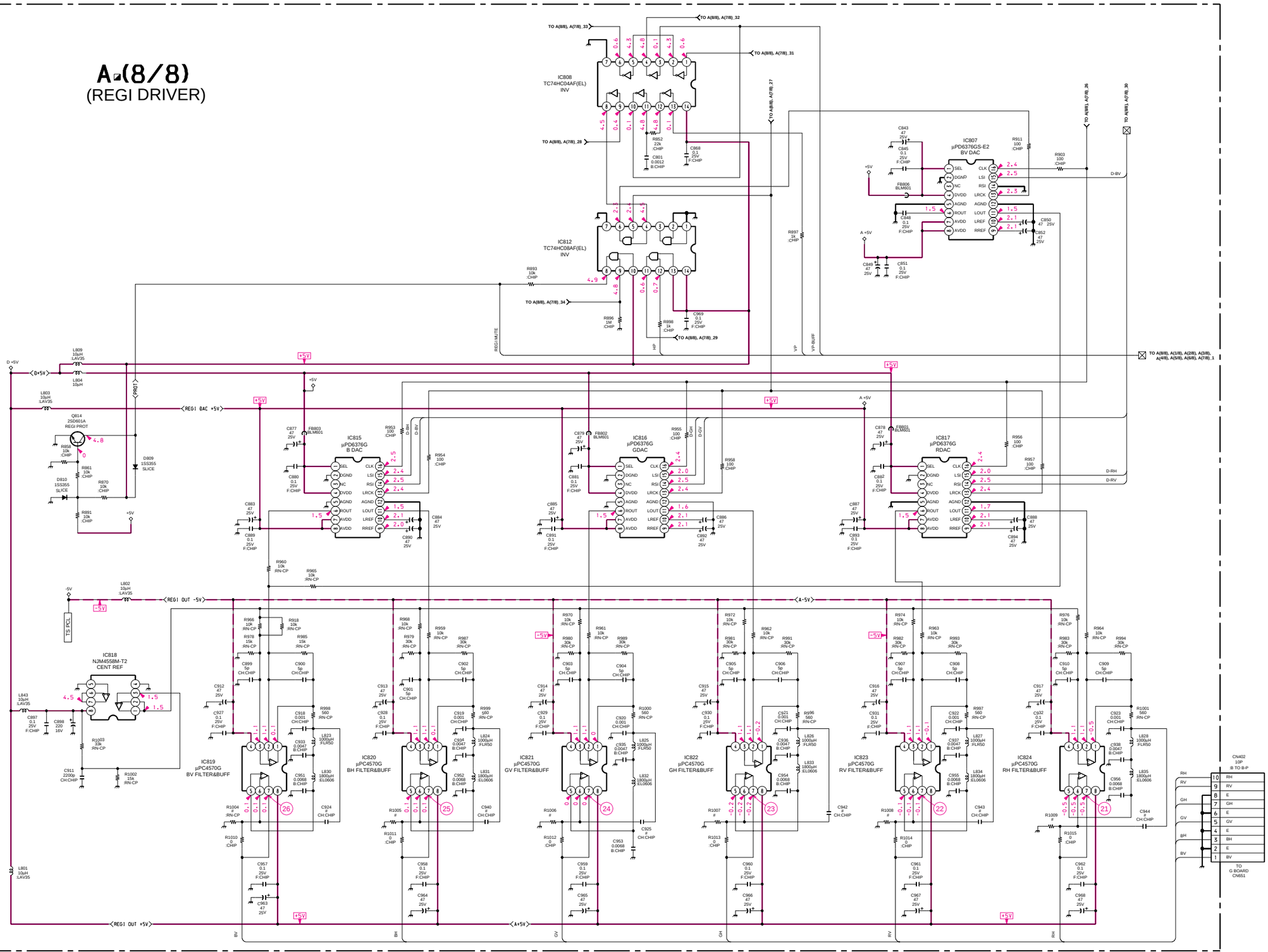
A-(5/8)

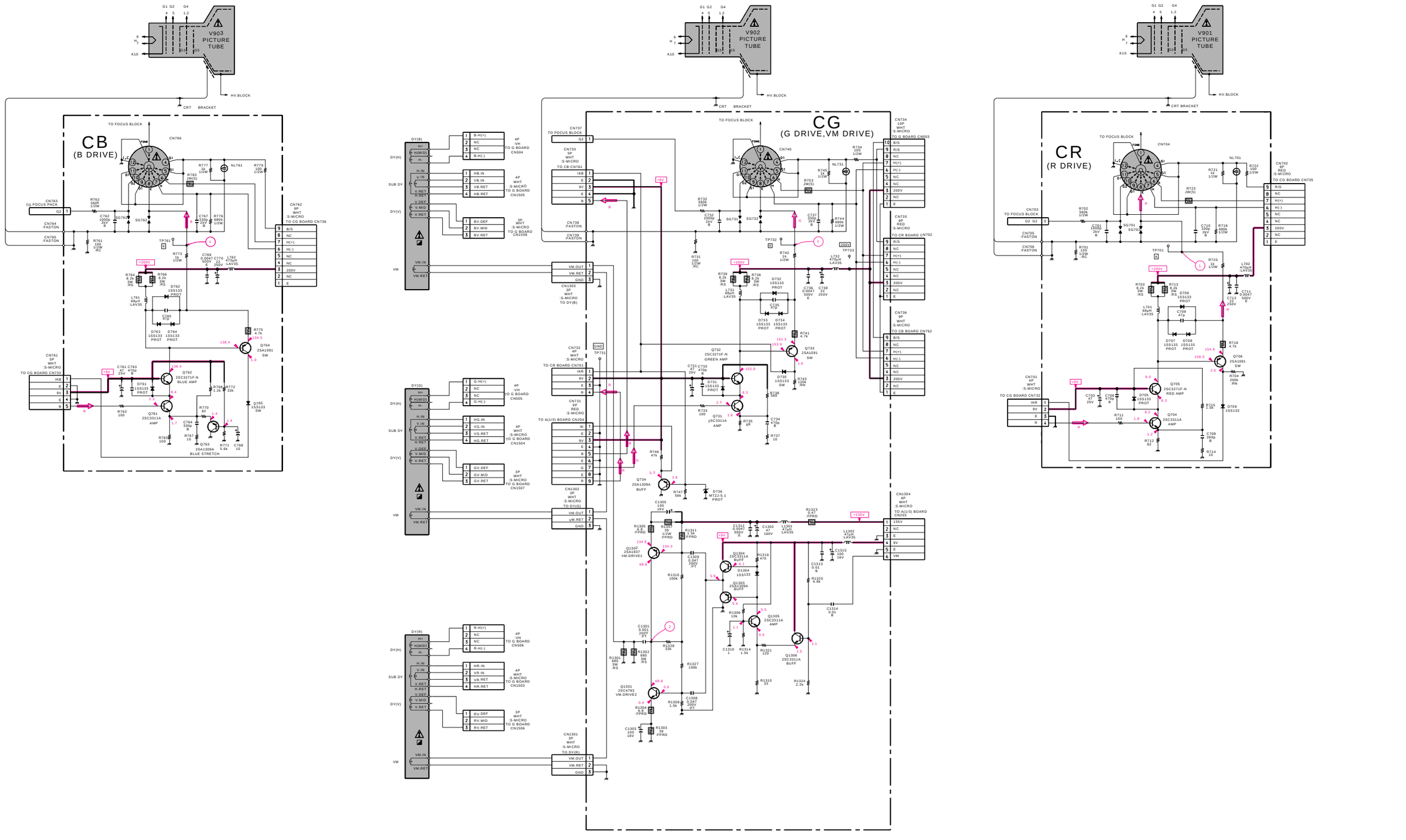
(V CHIP, COMB FILTER)

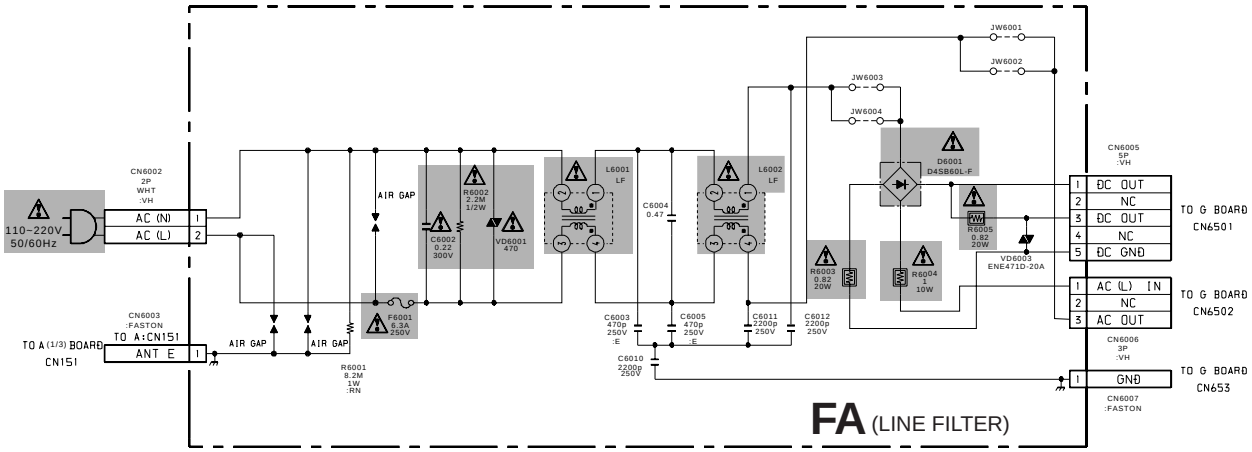

IC1901
CXA2039M-T6
IC1902
CXA2019AQ-T4
SUB-DECODER
IC1903
BU4053BCF-T2
YUV SW
IC1904
CXA1315M-T4
IC1905
SDA9288XE-B0121
PIP PROCESSOR
D6H
9EH
A6H
TO A(6/8), A(1/8), A(3/8), A(5/8), A(7/8), A(8/8)

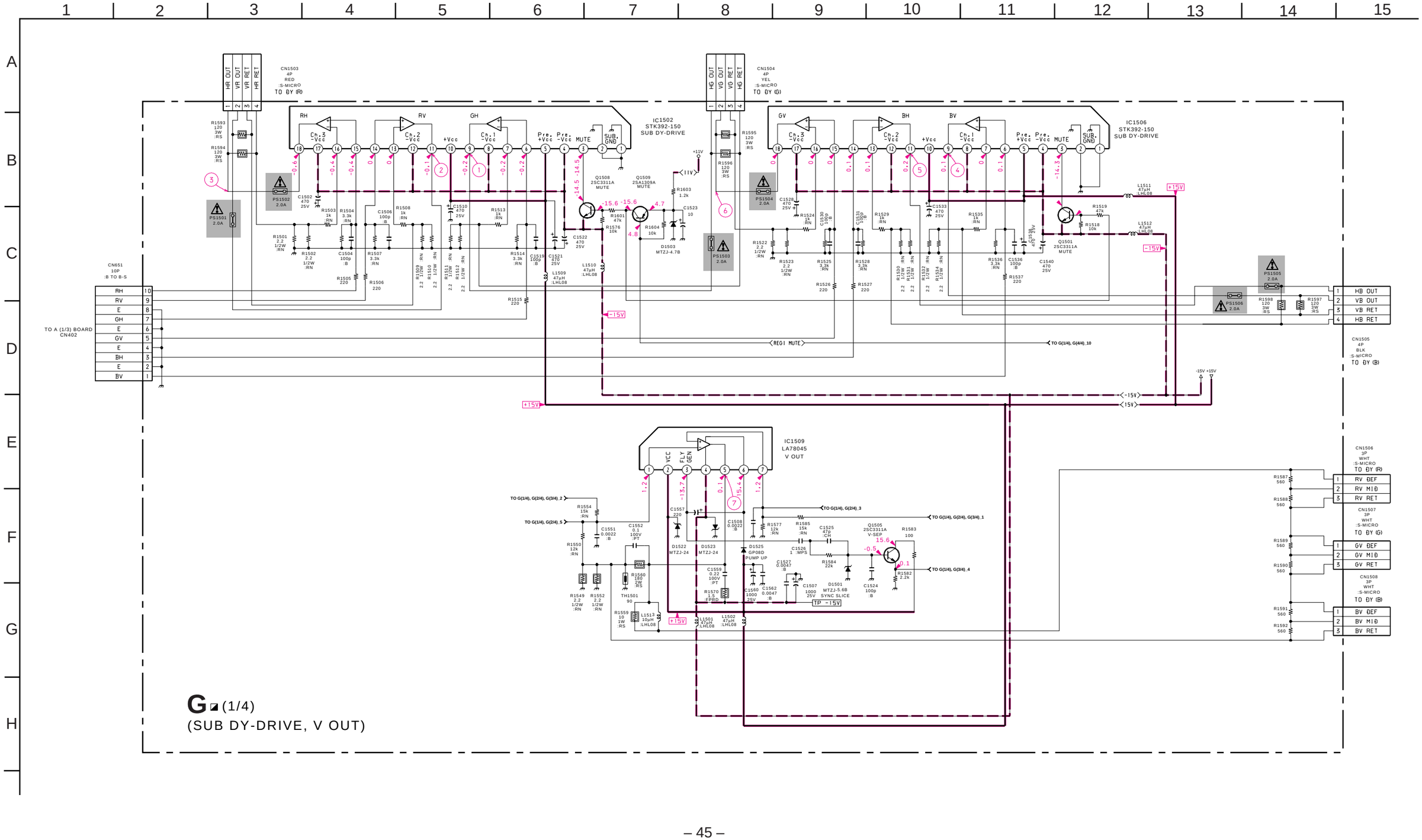

D FOCUS
IC803
CM0006CF
DIGITAL-REGI
8Ch
IC802
NJM2058M-TE2
IV CONV
IC804
NJM2058M-TE2
PEAK HOLD
IC806
NJM2058M-TE2
BUFF
IC801
TC7W66FU(TE12R)
IIC SW
IC805
CXP86324-024Q
PJED-CPU
6Ah
IC809
TLC2932IPW-E20
16MHZ PLL
IC814
TC74HC32AF(EL)
OSD MIX
IC811
PST9143NL
RESET
IC810
ST24E16FM6TR
EEPROM
AEh
CN802
8P
WHT
:S-MICRO
RIGHT SENSOR
LOWER SENSOR
UPPER SENSOR
LEFT SENSOR
SENSOR
TO A(7/8), A(8/8)_30
TO A(7/8), A(8/8)_29
TO A(7/8), A(8/8)_26
TO A(7/8), A(8/8)_27
TO A(7/8), A(8/8)_28
TO A(7/8), A(8/8)_31
TO A(7/8), A(8/8)_32
TO A(7/8), A(8/8)_33
TO A(7/8), A(8/8)_34
TO A(7/8), A(2/8)_18
TO A(7/8), A(3/8)_23
TO A(7/8), A(1/8), A(2/8), A(3/8), A(4/8), A(5/8), A(6/8), A(8/8) _1
PSDA
PSCL
SDA
SCL
PJERST
B INT
VP-BUFF
RE-YS
RE-YM
RE-R
RE-G
RE-B
ED-R
ED-G
ED-B
A(7/8)
(PJED, CPU, DIGITAL REGI)

A-(8/8)
(REGI DRIVER)



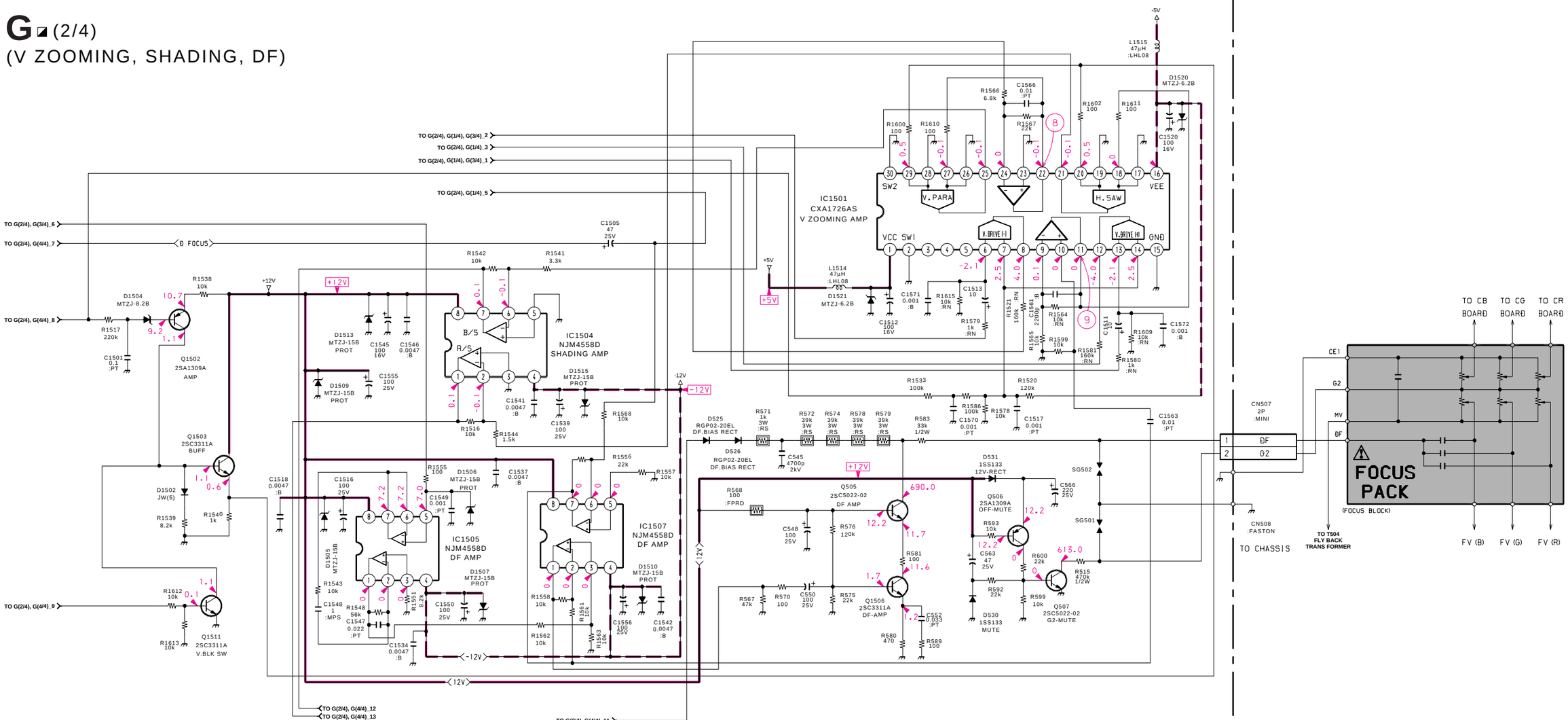

V903 PICTURE TUBE
V902 PICTURE TUBE
V901 PICTURE TUBE
HV.BLOCK
CRT BRACKET
CB
(B DRIVE)
CG
(G DRIVE,VM DRIVE)
CR
(R DRIVE)
TO FOCUS BLOCK
TO FOCUS PACK
TO CG BOARD CN733
TO CG BOARD CN736
TO CB BOARD CN701
TO CB BOARD CN702
TO CB BOARD CN762
TO A(1/3) BOARD CN204
TO A(2/3) BOARD CN203
TO A(3/3) BOARD CN202
TO G BOARD CN504
TO G BOARD CN505
TO G BOARD CN506
TO G BOARD CN1503
TO G BOARD CN1504
TO G BOARD CN1505
TO G BOARD CN1506
TO G BOARD CN1507
TO G BOARD CN1508
TO CG BOARD CN735
TO CG BOARD CN732
TO DY(G)
TO DY(B)
TO DY(R)
Q762 2SC3271F-N BLUE AMP
Q761 2SC3311A AMP
Q763 2SA1309A BLUE STRETCH
Q764 2SA1091 SW
Q732 2SC3271F-N GREEN AMP
Q731 2SC3311A AMP
Q733 2SA1091 SW
Q734 2SA1309A BUFF
Q736 MTZJ-5.1 PROT
Q1302 2SA1837 VM.DRIVE1
Q1301 2SC4793 VM.DRIVE2
Q1304 2SC3311A BUFF
Q1303 2SA1309A BUFF
Q1305 2SC3311A AMP
Q1306 2SC3311A BUFF
Q705 2SC3271F-N RED AMP
Q704 2SC3311A AMP
Q706 2SA1091 SW
D1304 1SS133
+200V
+15V
+135V
+9V
GND

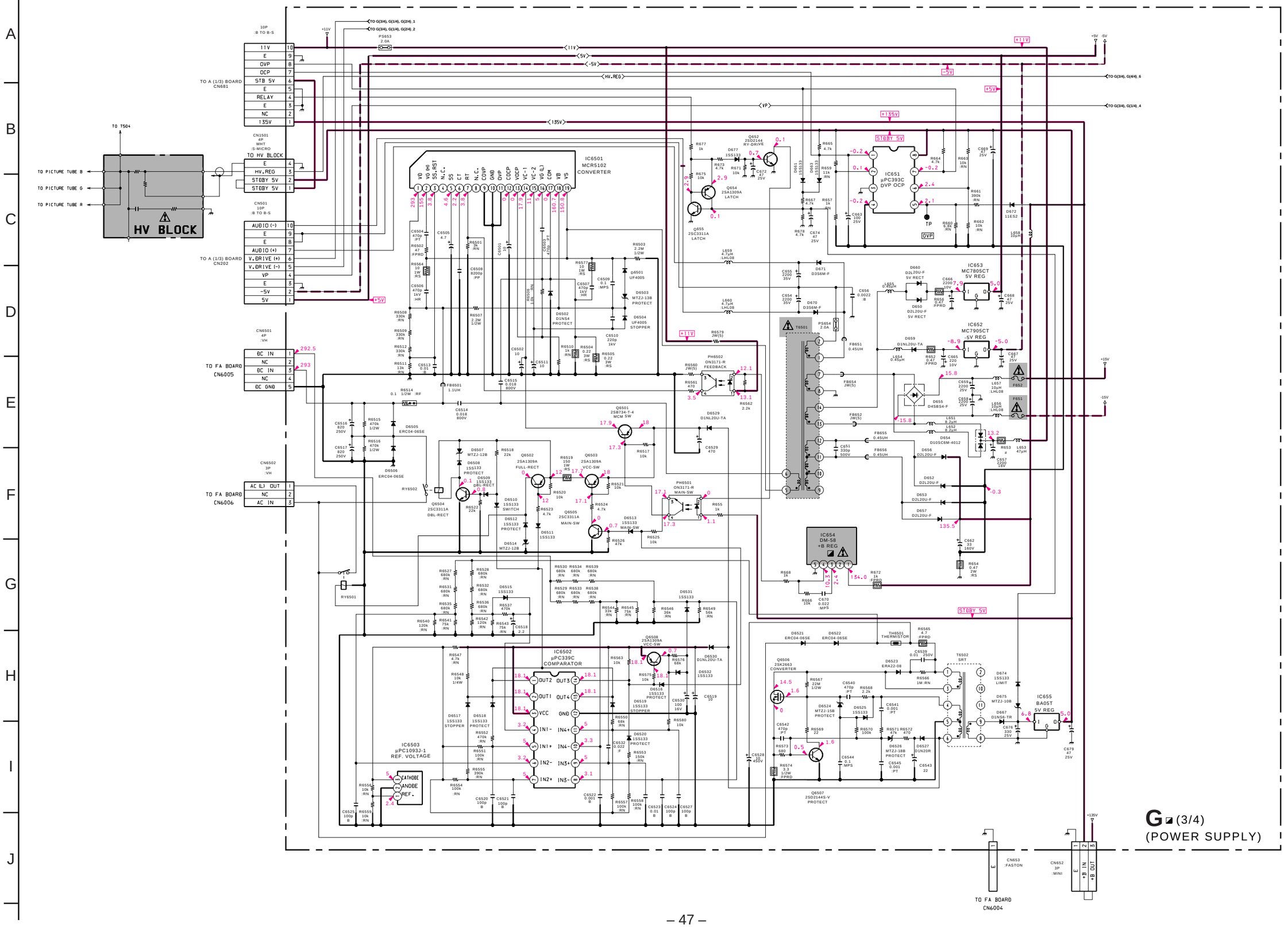

CN6002
2P
WHT
:VH
110~220V
50/60Hz
AC (N)
AC (L)
AIR GAP
R6002
2.2M
1/2W
C6002
0.22
300V
VD6001
470
L6001
LF
L6002
LF
C6004
0.47
JW6001
JW6002
JW6003
JW6004
D6001
D4SB60L-F
R6005
0.82
20W
VD6003
ENE471D-20A
R6003
0.82
20W
R6004
1
10W
CN6005
5P
:VH
DC OUT
NC
DC OUT
NC
DC GND
TO G BOARD
CN6501
AC (L) IN
NC
AC OUT
TO G BOARD
CN6502
CN6006
3P
:VH
GND
TO G BOARD
CN653
CN6007
:FASTON
CN6003
:FASTON
TO A:CN151
ANT E
TO A (1/3) BOARD
CN151
AIR GAP
AIR GAP
F6001
6.3A
250V
R6001
8.2M
1W
:RN
C6003
470p
250V
:E
C6005
470p
250V
:E
C6011
2200p
250V
C6012
2200p
250V
C6010
2200p
250V
FA (LINE FILTER)

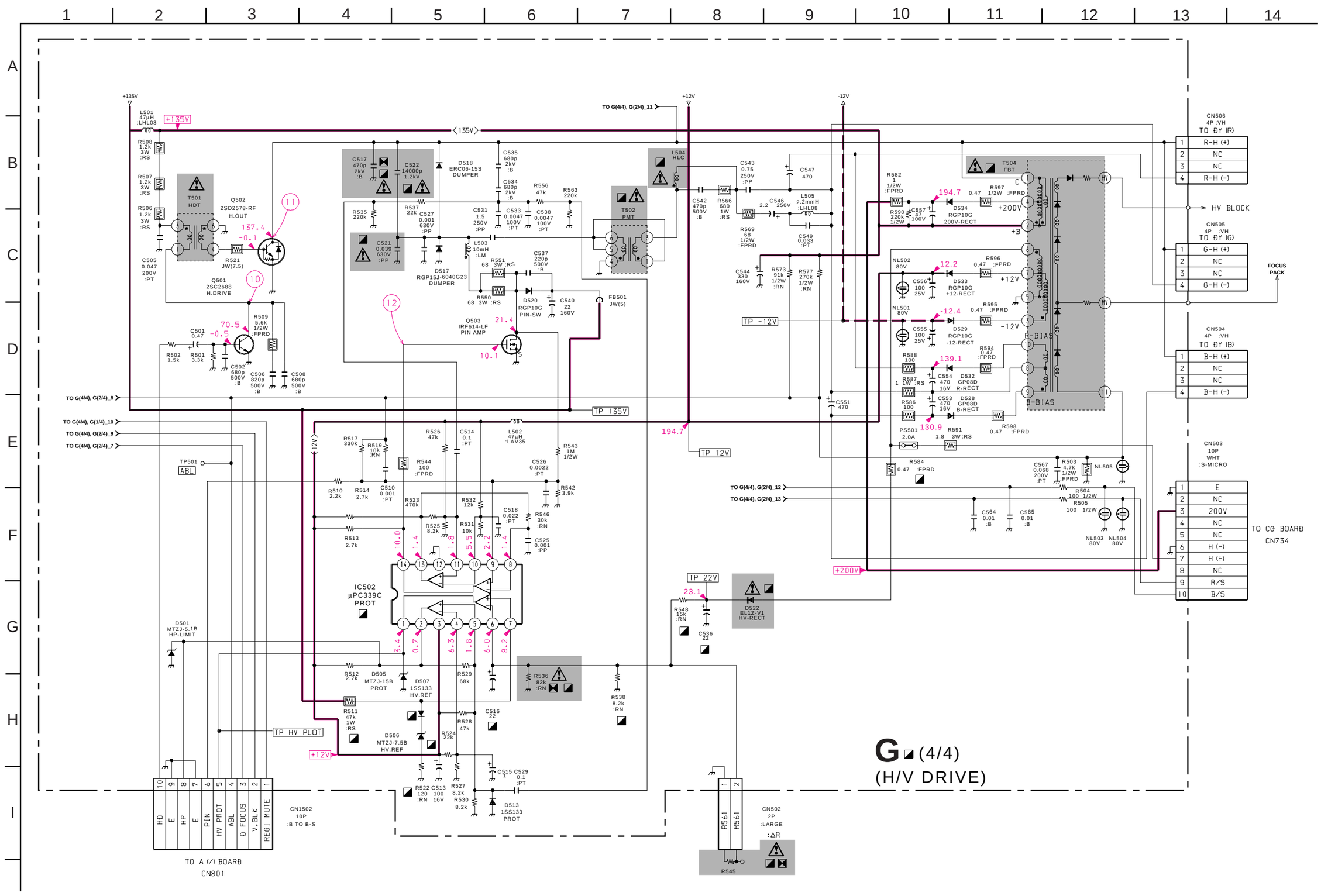


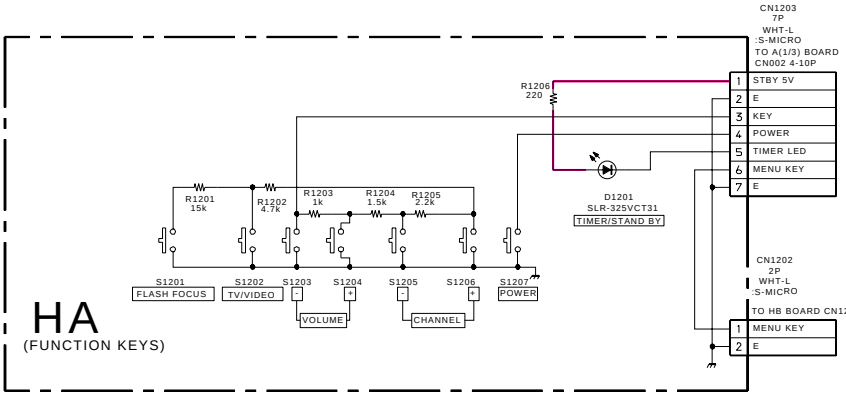
G (1/4)
(SUB DY-DRIVE, V OUT)

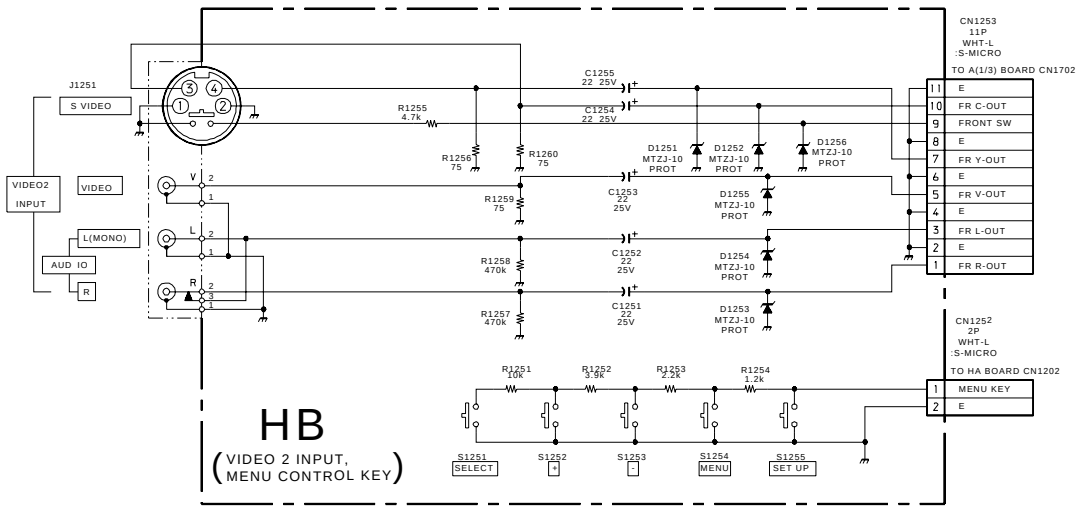
G (2/4)
(V ZOOMING, SHADING, DF)

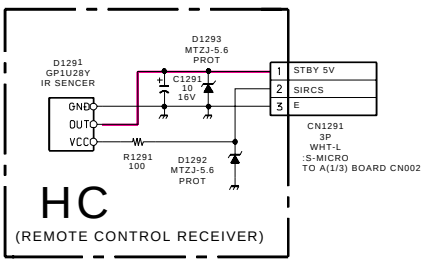



HV BLOCK
TO PICTURE TUBE B
TO PICTURE TUBE G
TO PICTURE TUBE R
TO T504
CN1501 4P WHT :S-MICRO
TO HV BLOCK
E
HV.REG
STDBY 5V
STDBY 5V
CN501 10P :B TO B-S
AUDIO (-)
E
E
AUDIO (+)
V.DRIVE (+)
V.DRIVE (-)
VP
E
-5V
5V
TO A (1/3) BOARD CN681
TO A (1/3) BOARD CN202
10P :B TO B-S
11V
E
OVP
OCP
STB 5V
E
RELAY
E
NC
135V
CN6501 4P :VH
DC IN
NC
DC IN
NC
DC GND
TO FA BOARD CN6005
CN6502 3P :VH
AC (L) OUT
NC
AC IN
TO FA BOARD CN6006
IC6501 MCR5102 CONVERTER
IC6502 µPC339C COMPARATOR
IC6503 µPC1093J-1 REF. VOLTAGE
CATHODE
ANODE
REF.
IC651 µPC393C DVP OCP
IC652 MC7905CT -5V REG
IC653 MC7805CT 5V REG
IC654 DM-58 +B REG
IC655 BA05T 5V REG
TP
OVP
PH6501 ON3171-R MAIN-SW
PH6502 ON3171-R FEEDBACK
RY6501
RY6502
TH6501 THERMISTOR
T6501
T6502 SRT
CN653 :FASTON
CN652 3P :MINI
+B IN
+B OUT
TO FA BOARD CN6004
+135V
G (3/4)
(POWER SUPPLY)


G (4/4)
(H/V DRIVE)
TO A (/) BOARD
CN801
CN1502
10P
:B TO B-S
TO CG BOARD
CN734
CN506
4P :VH
TO ÐY (R)
CN505
4P :VH
TO ÐY (G)
CN504
4P :VH
TO ÐY (B)
CN503
10P
WHT
:S-MICRO
CN502
2P
:LARGE
:ΔR
HV BLOCK
FOCUS PACK
IC502
µPC339C
PROT
T501
HDT
T502
PMT
T504
FBT
Q501
2SC2688
H.DRIVE
Q502
2SD2578-RF
H.OUT
Q503
IRF614-LF
PIN AMP
TP 135V
TP 12V
TP -12V
TP 22V
TP HV PLOT
TP501
ABL
+135V
+12V
-12V
+200V
+B
B-BIAS
TO G(4/4), G(2/4)_11
TO G(4/4), G(2/4)_8
TO G(4/4), G(1/4)_10
TO G(4/4), G(2/4)_9
TO G(4/4), G(2/4)_7
TO G(4/4), G(2/4)_12
TO G(4/4), G(2/4)_13


CN1203
7P
WHT-L
:S-MICRO
TO A(1/3) BOARD
CN002 4-10P
1 STBY 5V
2 E
3 KEY
4 POWER
5 TIMER LED
6 MENU KEY
7 E
R1206
220
D1201
SLR-325VCT31
TIMER/STAND BY
R1201
15k
R1202
4.7k
R1203
1k
R1204
1.5k
R1205
2.2k
S1201
FLASH FOCUS
S1202
TV/VIDEO
S1203
VOLUME
S1204
S1205
CHANNEL
S1206
S1207
POWER
CN1202
2P
WHT-L
:S-MICRO
TO HB BOARD CN1252
1 MENU KEY
2 E
HA
(FUNCTION KEYS)


CN1253
11P
WHT-L
:S-MICRO
TO A(1/3) BOARD CN1702
11 E
10 FR C-OUT
9 FRONT SW
8 E
7 FR Y-OUT
6 E
5 FR V-OUT
4 E
3 FR L-OUT
2 E
1 FR R-OUT
J1251
S VIDEO
VIDEO2
INPUT
VIDEO
L(MONO)
AUD IO
R
R1255
4.7k
R1256
75
R1260
75
R1259
75
R1258
470k
R1257
470k
C1255
22 25V
C1254
22 25V
C1253
22
25V
C1252
22
25V
C1251
22
25V
D1251
MTZJ-10
PROT
D1252
MTZJ-10
PROT
D1256
MTZJ-10
PROT
D1255
MTZJ-10
PROT
D1254
MTZJ-10
PROT
D1253
MTZJ-10
PROT
CN1252
2P
WHT-L
:S-MICRO
TO HB BOARD CN1202
1 MENU KEY
2 E
R1251
10k
R1252
3.9k
R1253
2.2k
R1254
1.2k
S1251
SELECT
S1252
S1253
S1254
MENU
S1255
SET UP
HB
(VIDEO 2 INPUT,
MENU CONTROL KEY)


D1293
MTZJ-5.6
PROT
D1291
GP1U28Y
IR SENCER
GND
OUT
VCC
C1291
10
16V
R1291
100
D1292
MTZJ-5.6
PROT
1 STBY 5V
2 SIRCS
3 E
CN1291
3P
WHT-L
:S-MICRO
TO A(1/3) BOARD CN002
HC
(REMOTE CONTROL RECEIVER)

6-4. PRINTED WIRING BOARDS

A BOARD

Terminal name of semiconductors in silk screen printed circuit (∗)

DIODE		∗
D001	B-13	③
D002	B-13	③
D003	A-13	③
D004	A-9	③
D006	A-10	③
D301	C-10	③
D302	C-10	③
D303	D-4	③
D304	D-4	③
D402	G-4	③
D403	G-3	③
D404	G-3	③
D405	G-3	③
D406	G-2	③
D407	G-3	③
D408	G-3	③
D409	E-1	-
D412	H-2	③
D413	G-2	③
D416	C-1	-
D418	G-2	③
D420	H-3	③
D421	H-4	③
D801	B-5	③
D802	B-5	③
D804	C-5	③
D809	C-4	③
D810	C-4	③
D816	A-4	③
D817	A-4	③
D818	A-4	③
D819	A-4	③
D820	A-4	③
D821	B-4	③
D822	A-4	③
D823	A-4	③
D1103	I-9	③
D1104	I-7	③
D1105	I-7	③
D1106	I-8	③
D1107	I-9	③
D1109	H-6	③
D1111	I-6	③
D1112	I-6	③
D1113	J-5	③
D1114	I-5	③
D1115	I-5	③
D1116	I-5	③
D1117	I-5	③
D1119	I-7	③
D1120	I-9	③
D1121	I-8	③
D1122	I-9	③
D1123	I-9	③
D1124	J-3	③
D1125	J-3	③
D1127	H-7	③
D1904	J-9	③
D1905	F-10	③
D1906	F-10	③

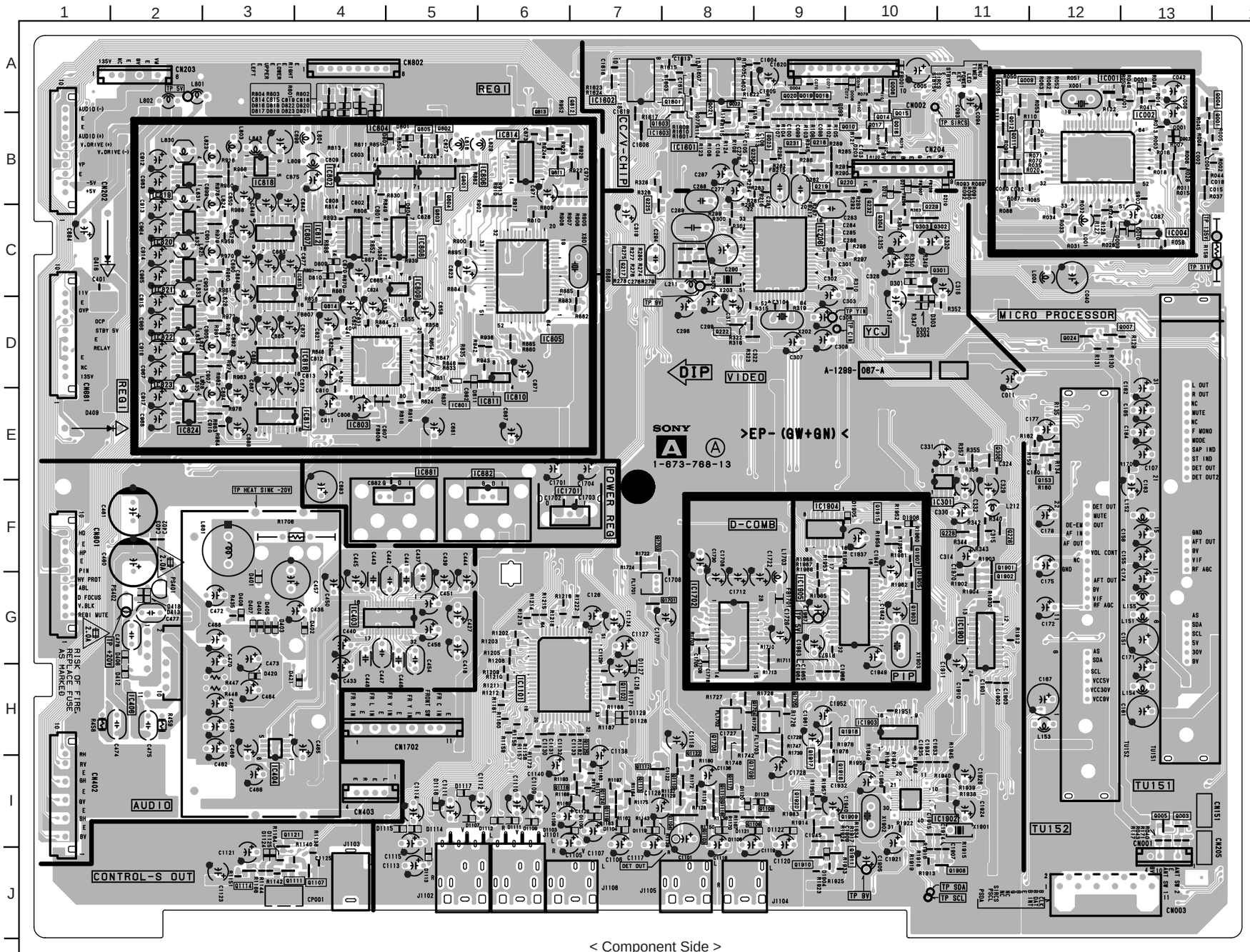
TRANSISTOR		∗
Q001	B-13	②
Q003	I-13	②
Q004	A-13	②
Q005	I-13	②
Q006	A-10	②
Q007	D-12	②
Q008	A-8	②
Q009	A-11	②
Q010	A-10	②
Q011	B-11	②
Q012	B-11	②
Q014	B-10	②
Q015	A-10	②
Q016	B-10	②
Q017	B-10	②
Q018	A-9	②
Q019	A-9	②
Q020	A-9	②
Q021	B-8	②
Q022	A-8	②
Q023	B-8	②
Q024	D-12	②
Q153	E-12	②
Q217	C-8	②
Q218	B-9	②
Q219	B-9	②
Q220	B-9	②
Q222	D-8	②
Q225	C-7	②
Q226	F-11	②
Q228	F-11	②
Q229	B-10	②
Q230	B-9	②
Q231	B-9	②
Q232	B-10	②
Q301	C-10	②
Q302	C-10	②
Q303	C-10	②
Q304	C-10	②
Q306	E-11	②
Q801	B-5	②
Q802	B-5	②
Q803	B-5	②
Q804	B-5	②
Q805	B-5	②
Q811	B-6	②
Q812	B-7	②
Q813	B-6	②
Q814	C-4	②
Q1102	H-7	②
Q1103	I-8	②
Q1104	I-8	②
Q1107	J-4	②
Q1108	I-8	②
Q1109	I-9	②
Q1110	I-8	②
Q1111	J-3	②
Q1112	I-7	②
Q1113	I-7	②
Q1114	J-3	②
Q1115	I-8	②
Q1116	I-8	②
Q1117	I-8	②
Q1118	I-7	②
Q1119	I-7	②
Q1121	I-3	②
Q1122	I-8	②
Q1124	I-7	②
Q1125	I-7	②
Q1601	A-8	②
Q1603	B-7	②
Q1701	G-7	②
Q1703	F-7	②
Q1704	H-9	②
Q1705	H-9	②
Q1708	H-8	②
Q1709	H-9	②
Q1901	F-11	②
Q1902	G-11	②
Q1903	G-10	②
Q1905	F-10	②
Q1907	F-10	②
Q1908	J-11	②
Q1909	I-9	②
Q1910	J-9	②
Q1911	J-9	②
Q1915	F-10	②
Q1916	I-9	②
Q1917	H-9	②
Q1918	H-9	②
Q1920	I-9	②

IC	
IC001	A-12
IC002	B-12
IC004	C-13
IC206	C-9
IC301	E-11
IC403	G-4
IC404	H-3
IC406	H-2
IC681	F-5
IC682	F-5
IC801	D-5
IC802	B-4
IC803	D-4
IC804	B-5
IC805	C-6
IC806	B-5
IC807	C-3
IC808	C-5
IC809	C-5
IC810	D-6
IC811	D-6
IC812	C-4
IC814	B-6
IC815	C-3
IC816	D-3
IC817	E-3
IC818	B-3
IC819	B-2
IC820	C-2
IC821	C-2
IC822	D-2
IC823	D-2
IC824	E-2
IC1101	H-6
IC1601	A-8
IC1602	A-7
IC1603	B-7
IC1701	D-7
IC1702	G-8
IC1901	G-11
IC1902	I-10
IC1903	H-10
IC1904	F-9
IC1905	G-10

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 33)

A [TUNER, YCJ, SYSTEM, CONTROL, AUDIO, PJED, REGI-CORRECTION, P IN P, 3D COMB FILTER]

– A Board –



A [TUNER, YCJ, SYSTEM, CONTROL, AUDIO, PJED, REGI-CORRECTION, P IN P, 3D COMB FILTER]

– A Board –

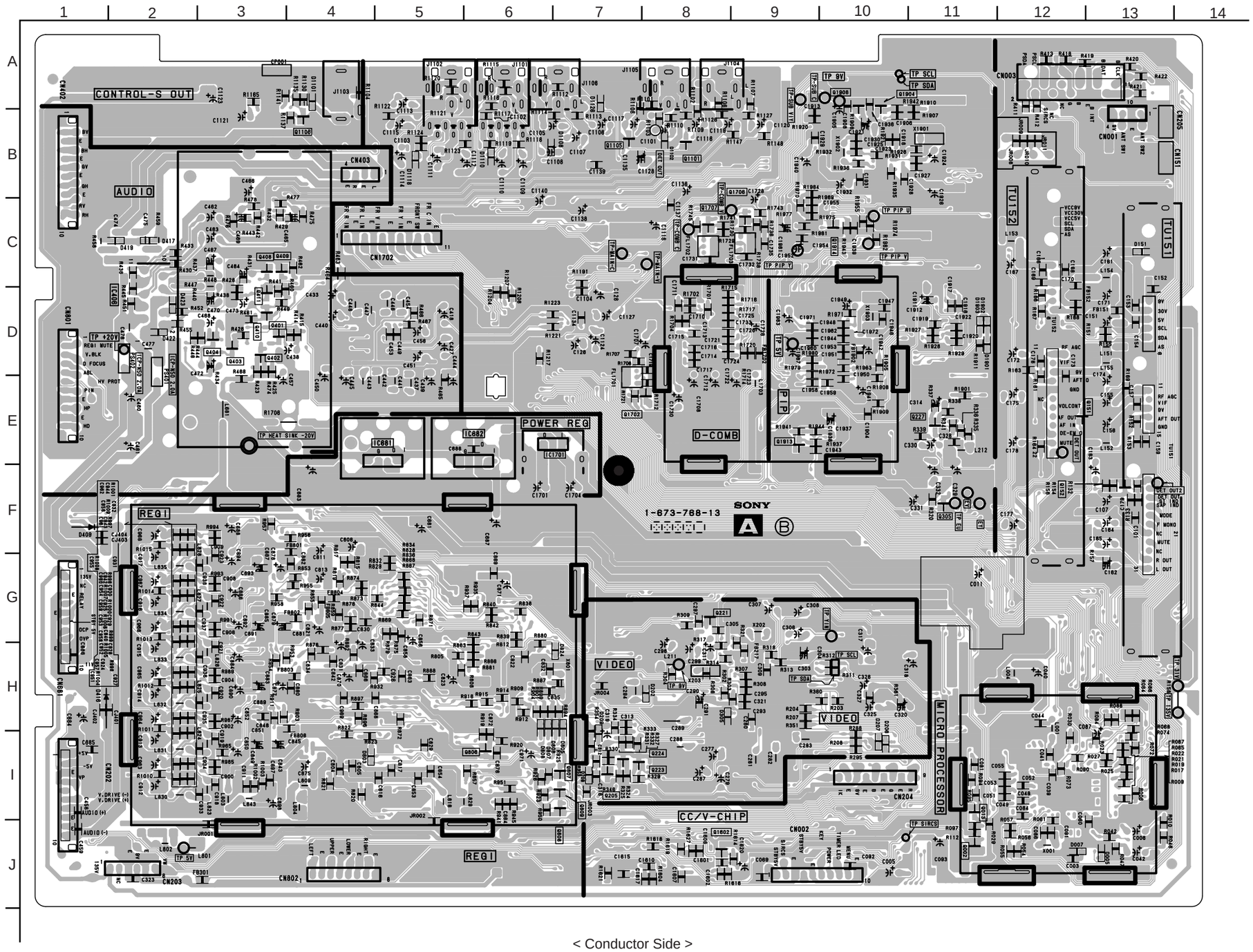
A BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

DIODE		∗
D001	B-13	③
D005	J-13	③
D151	C-13	③
D202	H-8	③
D206	I-10	③
D207	I-10	③
D208	I-7	③
D209	I-7	③
D305	H-9	③
D409	F-1	-
D416	H-2	-
D803	I-5	③
D805	I-7	③
D806	I-7	③
D807	I-7	③
D808	I-7	③
D824	H-8	③
D1101	A-4	③
D1102	B-8	③
D1108	B-7	③
D1110	B-6	③
D1118	B-5	③
D1126	A-7	③
D1901	D-12	③
D1902	D-12	③
D1903	D-11	③

TRANSISTOR		∗
Q002	J-11	①
Q013	I-11	①
Q151	E-13	①
Q152	F-13	①
Q205	I-7	①
Q221	G-8	①
Q223	I-8	①
Q224	I-7	①
Q227	E-11	①
Q305	F-11	①
Q401	D-4	①
Q402	D-3	①
Q403	D-3	①
Q404	D-3	①
Q408	C-3	①
Q409	C-4	①
Q410	D-3	①
Q411	D-3	①
Q806	I-6	①
Q807	I-7	①
Q808	I-7	①
Q809	I-7	①
Q1101	B-8	①
Q1105	B-8	①
Q1106	B-4	①
Q1602	J-9	①
Q1702	E-8	①
Q1706	C-9	①
Q1707	C-8	①
Q1904	B-10	①
Q1906	A-10	①
Q1913	E-9	①
Q1914	C-10	①

IC	
IC681	E-5
IC682	E-6
IC1701	E-7

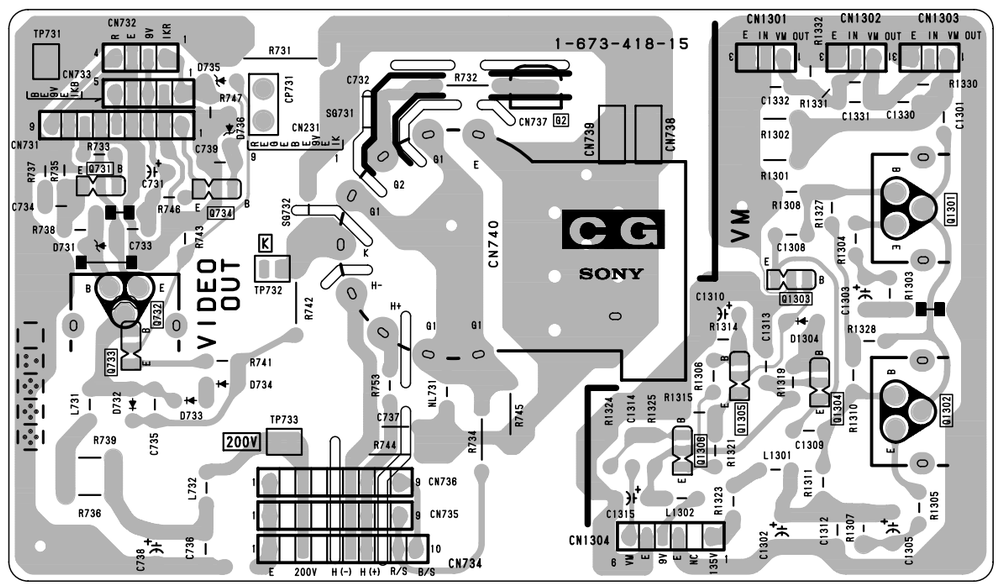
∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 33)



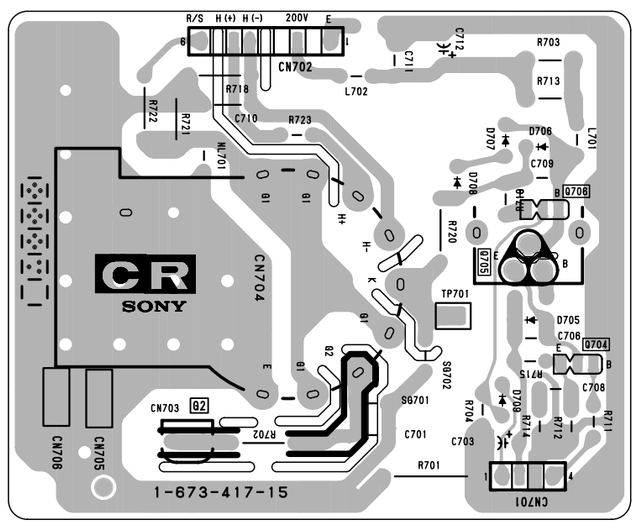
< Conductor Side >

CG [G DRIVE, VM DRIVE] **CR** [R DRIVE] **CB** [B DRIVE]

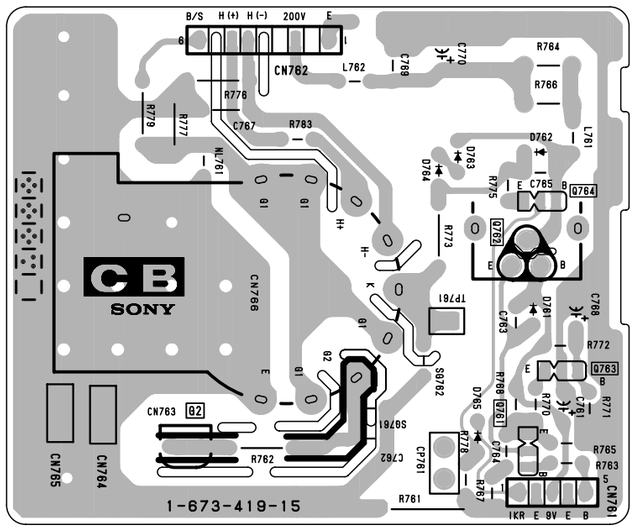
– CG Board –



– CB Board –

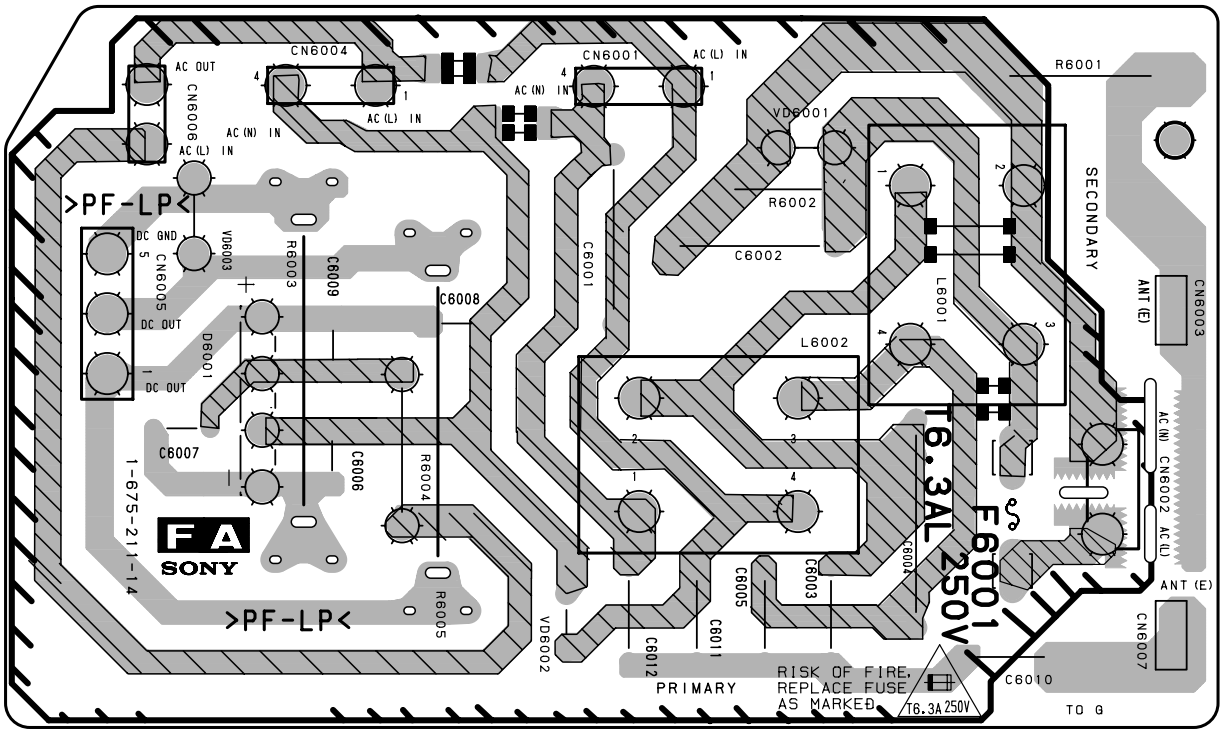


– CB Board –



FA [LINE FILTER]

– FA Board –



G BOARD
Terminal name of semiconductors in silk screen printed circuit (∗)

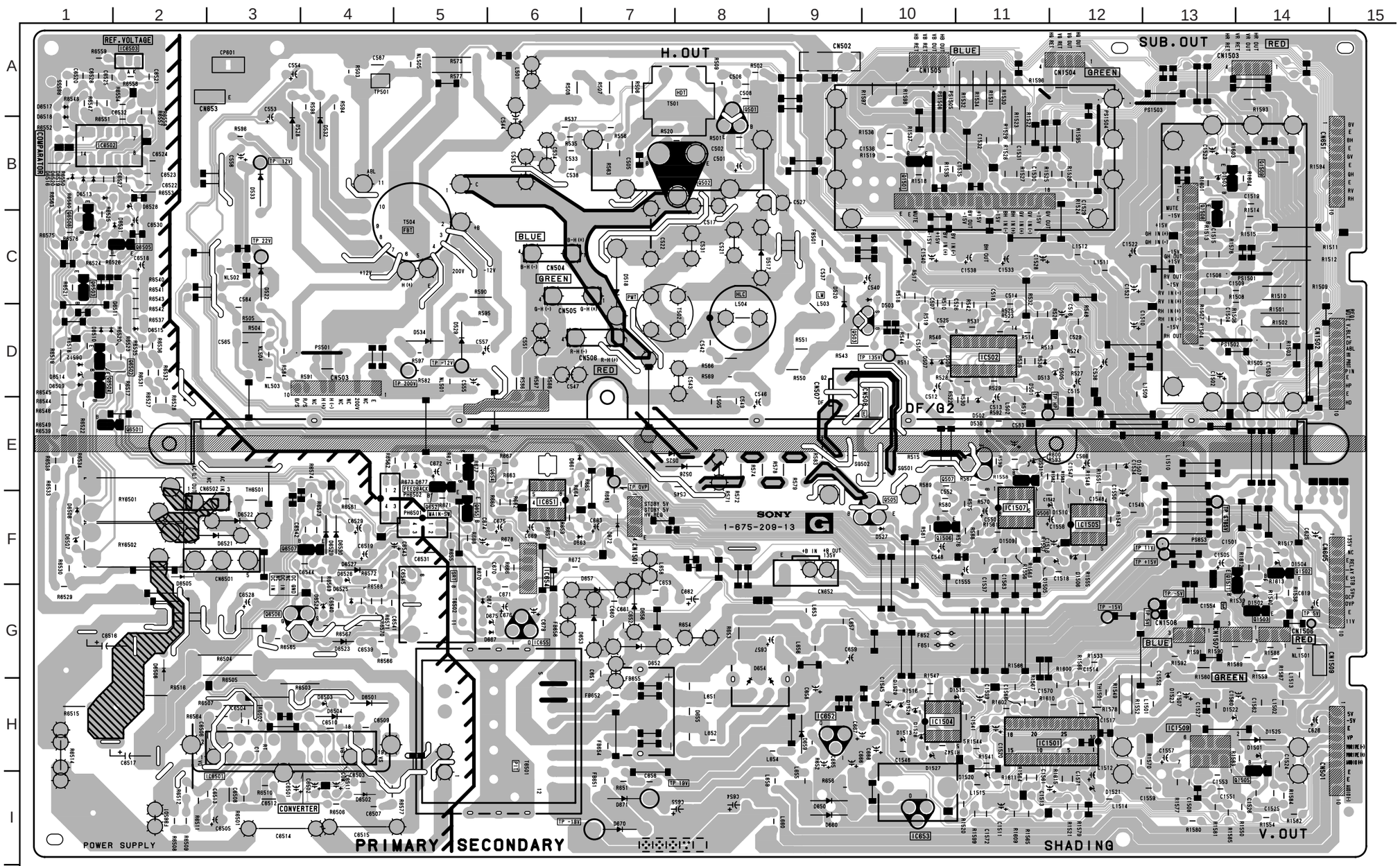
DIODE	
D501	D-11
D505	D-12
D506	E-10
D507	E-10
D513	D-11
D517	C-8
D518	C-7
D520	C-9
D522	C-3
D525	E-7
D526	E-8
D528	B-3
D529	D-5
D530	E-11
D531	E-11
D532	B-4
D533	B-3
D534	D-5
D650	I-9
D652	G-7
D653	G-7
D654	G-8
D655	H-7
D656	G-7
D657	G-7
D659	H-9
D660	I-9
D661	E-6
D663	F-6
D667	G-6
D670	I-7
D671	I-7
D672	F-7
D674	G-5
D675	G-6
D677	E-5
D1501	H-14
D1502	G-14
D1503	B-13
D1504	F-14
D1505	F-12
D1506	F-12
D1507	E-12
D1509	F-11
D1510	F-12
D1513	H-10
D1515	H-11
D1520	I-11
D1521	I-12
D1522	H-13
D1523	G-13
D1525	H-14
D6501	H-4
D6502	H-4
D6503	H-4
D6504	H-4
D6505	F-2
D6506	G-2
D6507	F-1
D6508	F-1
D6509	D-1
D6510	D-1
D6511	D-1
D6512	D-1
D6513	B-1
D6514	D-1
D6515	D-2
D6516	B-1
D6517	A-1
D6518	A-1
D6519	B-1
D6520	B-1
D6521	F-3
D6522	F-3
D6523	G-4
D6524	G-4
D6525	G-4
D6526	F-4
D6527	F-4
D6529	F-4
D6530	F-4
D6531	C-2
D6532	C-1

TRANSISTOR	
Q501	A-8
Q502	B-8
Q503	D-10
Q505	F-10
Q506	E-11
Q507	E-11
Q652	E-5
Q654	E-5
Q655	F-5
Q1501	B-10
Q1502	F-14
Q1503	G-14
Q1505	I-14
Q1506	F-10
Q1508	C-13
Q1509	B-13
Q1511	F-14
Q6501	E-1
Q6502	D-1
Q6503	C-1
Q6504	D-1
Q6505	C-2
Q6506	G-3
Q6507	F-4
Q6508	C-1

IC	
IC502	D-11
IC651	F-6
IC652	H-9
IC653	I-10
IC654	F-6
IC655	G-6
IC1501	H-11
IC1502	C-13
IC1504	H-10
IC1505	F-12
IC1506	B-11
IC1507	F-11
IC1509	H-13
IC6501	H-3
IC6502	B-1
IC6503	A-2

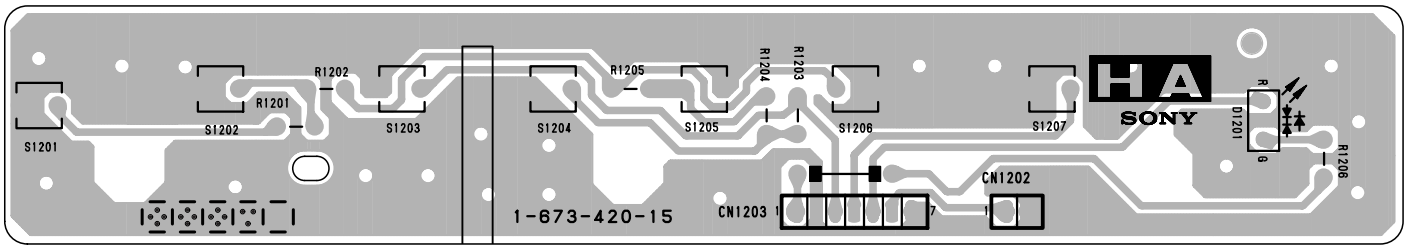
∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 33)

G [H/V, DY DRIVE, POWER SUPPLY] – G Board –

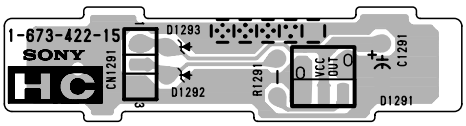


HA [FUNCTION KEK] **HC** [REMOTE CONTROL RECEIVER] **HB** [VIDEO-2 INPUT, MENU CONTROL KEYS]

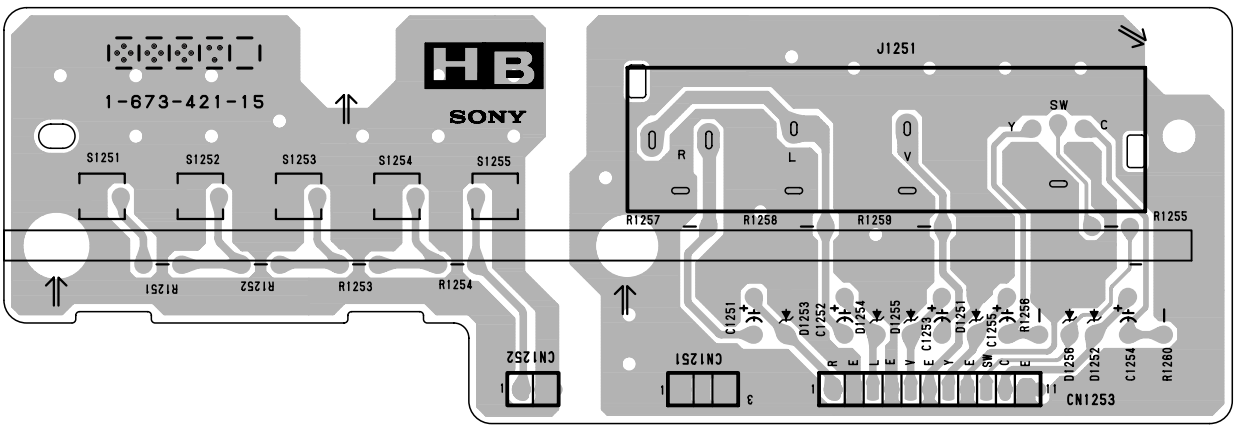
– HA Board –



– HC Board –

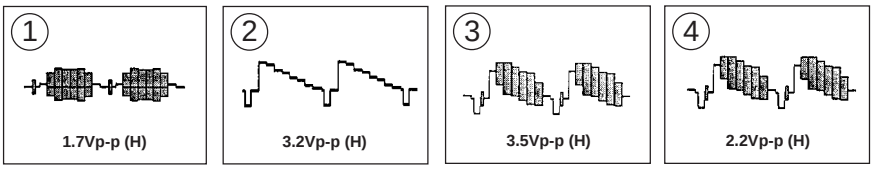


– HB Board –

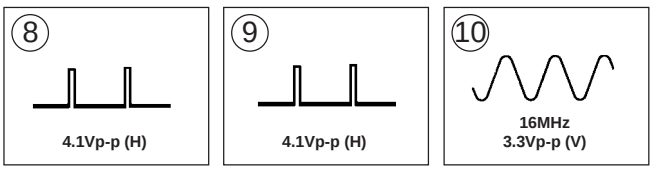


6-5. WAVEFORMS

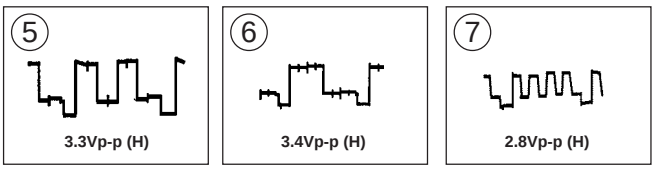
• A (1/8) BOARD WAVEFORMS



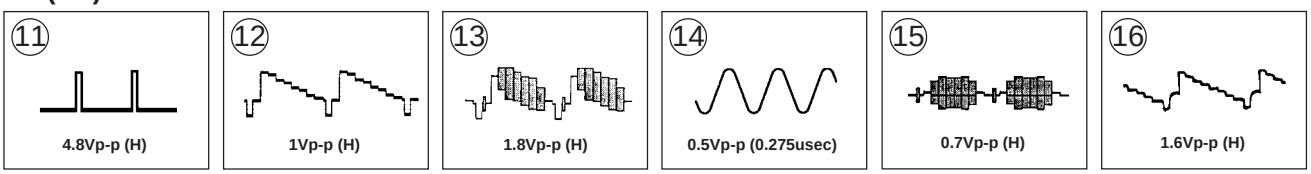
• A (2/8) BOARD WAVEFORMS



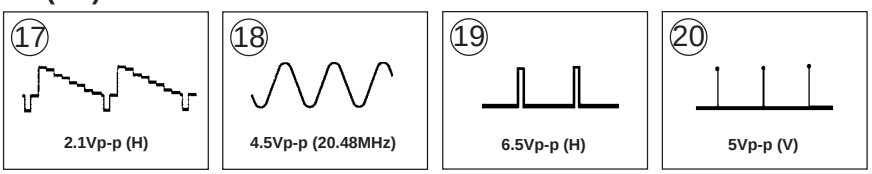
• A (3/8) BOARD WAVEFORMS



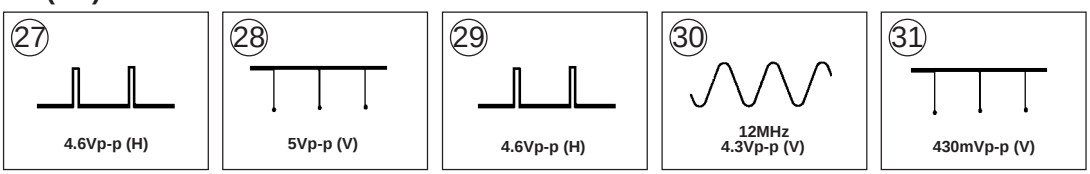
• A (5/8) BOARD WAVEFORMS



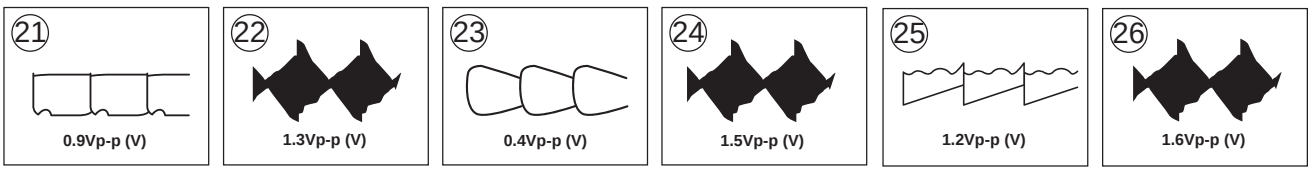
• A (6/8) BOARD WAVEFORMS



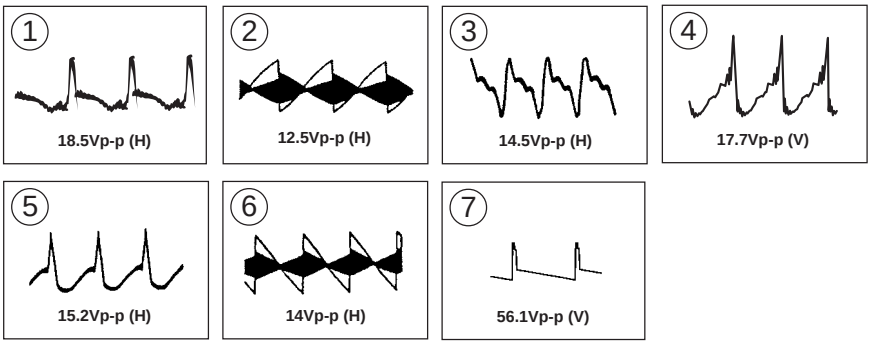
• A (7/8) BOARD WAVEFORMS



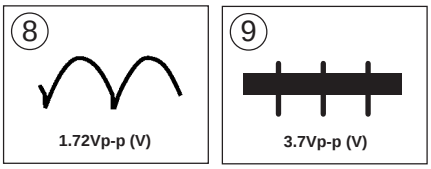
• A (8/8) BOARD WAVEFORMS



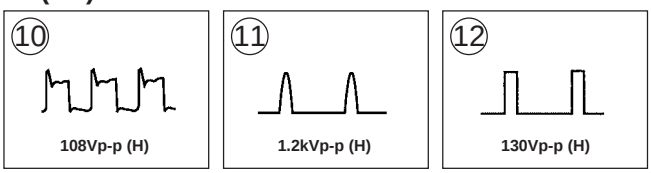
• G(1/4) BOARD WAVEFORMS



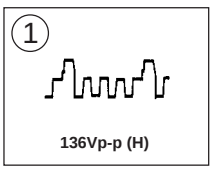
• G(2/4) BOARD WAVEFORMS



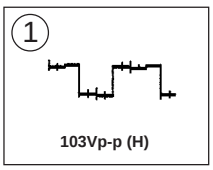
• G(4/4) BOARD WAVEFORMS

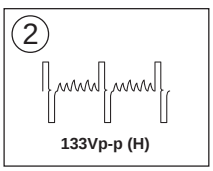


• CB BOARD WAVEFORM

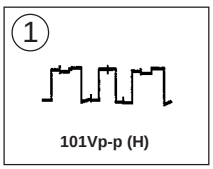


• CG BOARD WAVEFORMS





• CR BOARD WAVEFORM



6-6. IC BLOCK DIAGRAMS

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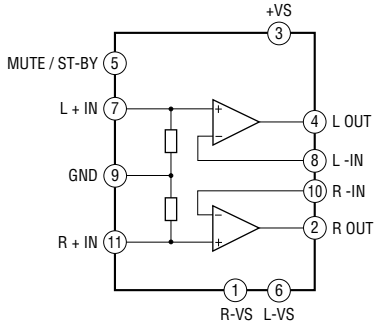

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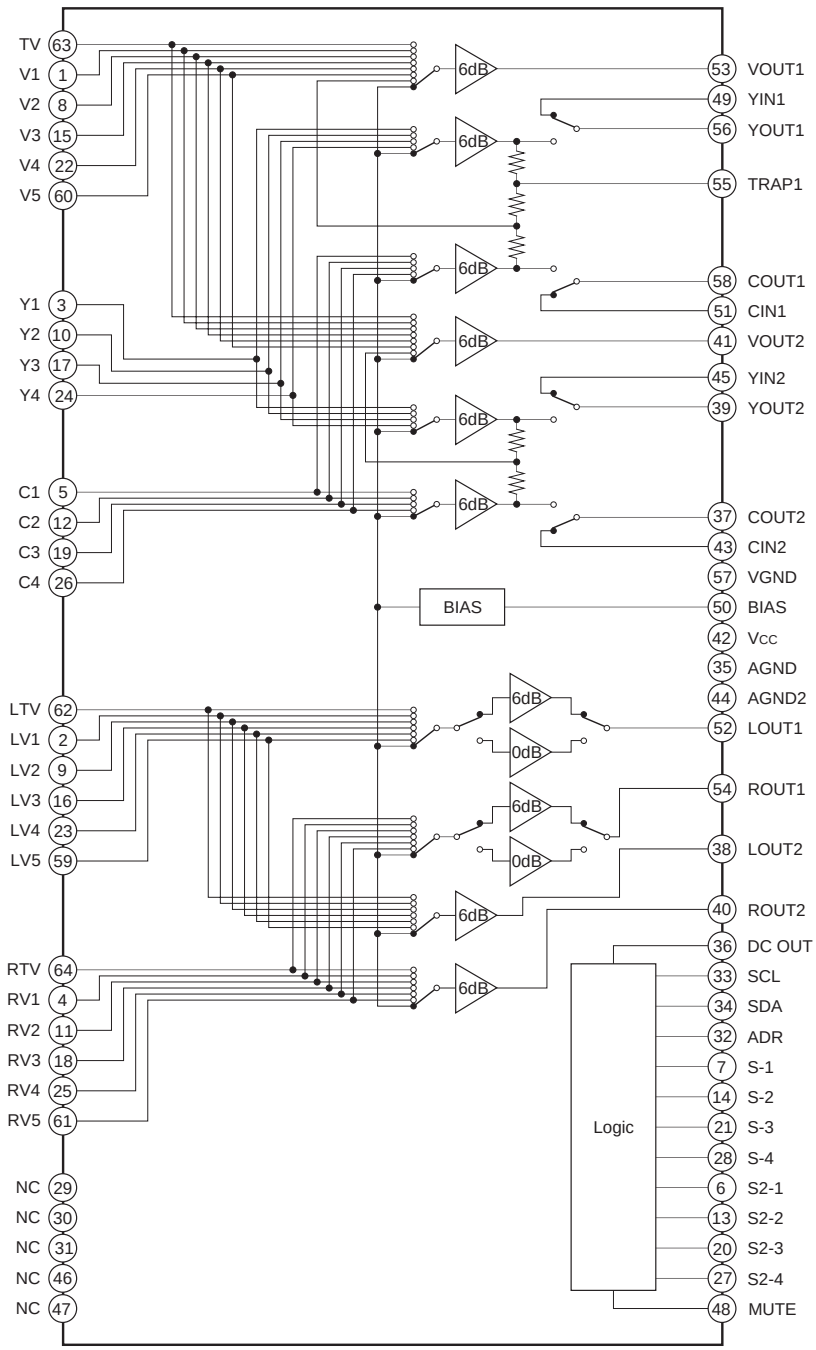

A BOARD : IC807, 815, 816, 817

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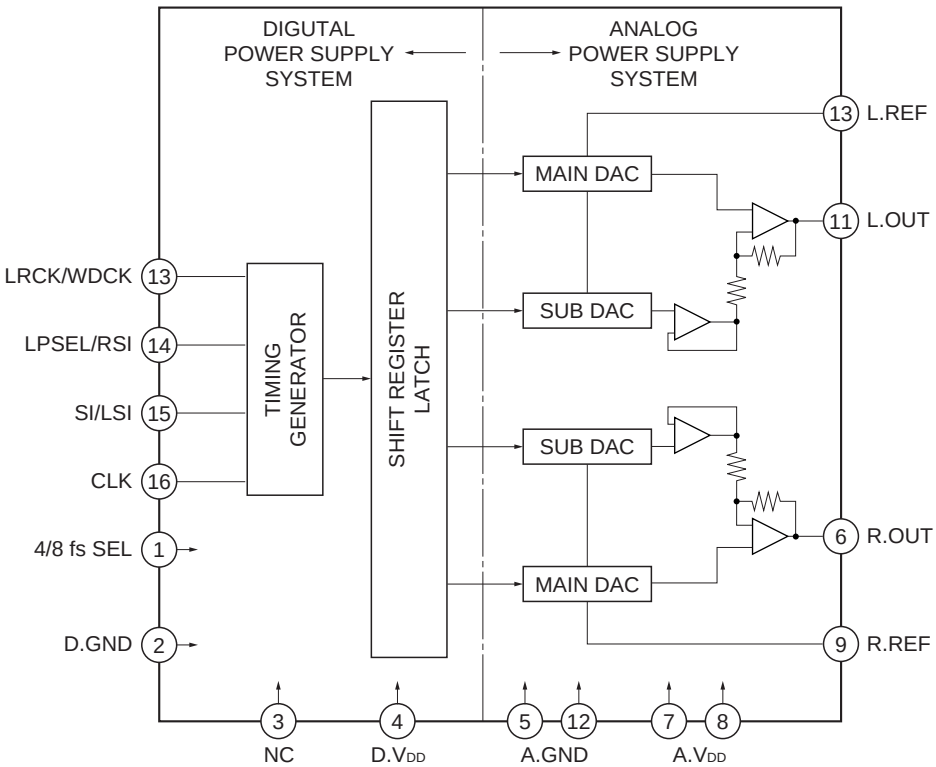

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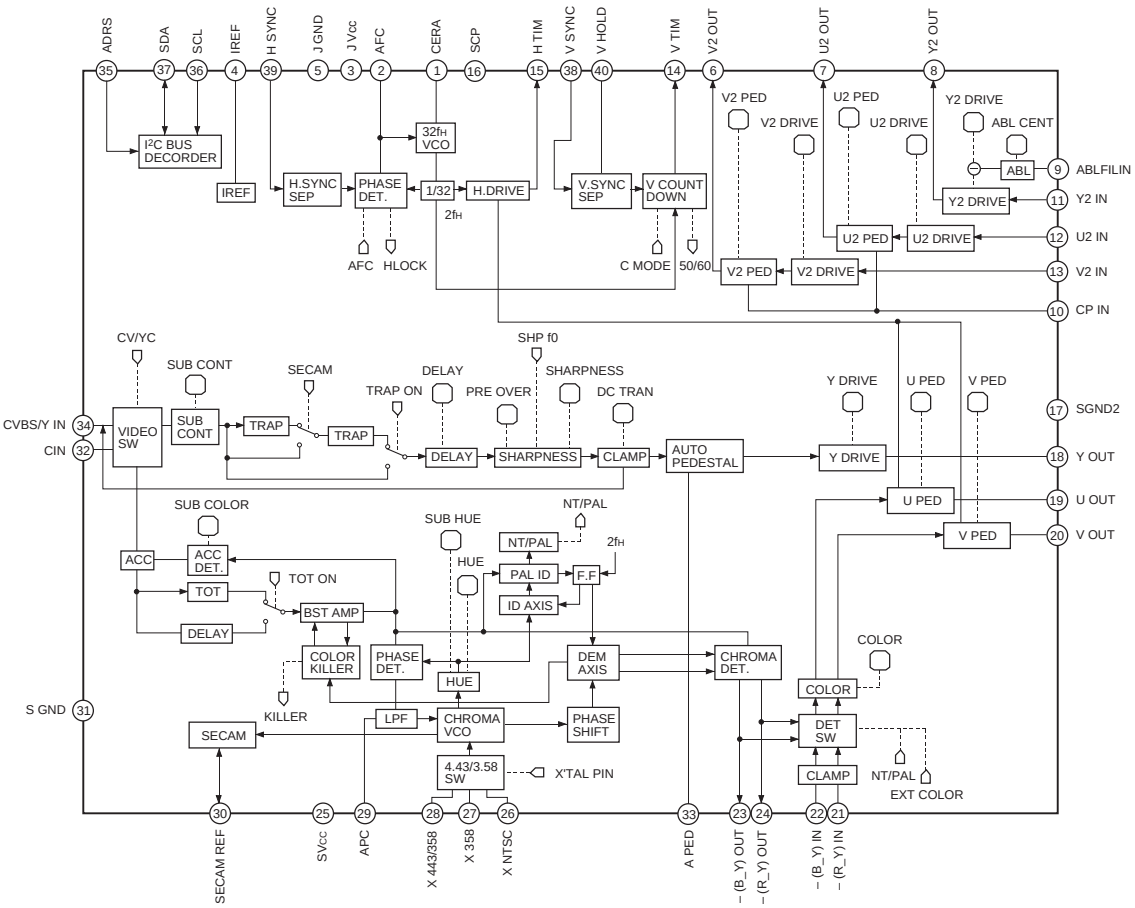
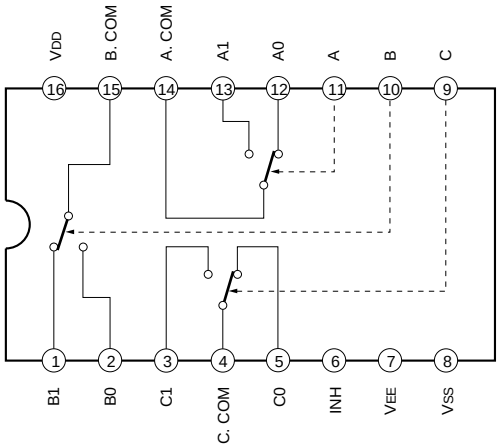


A BOARD : IC1903 BU4053BCF-T2



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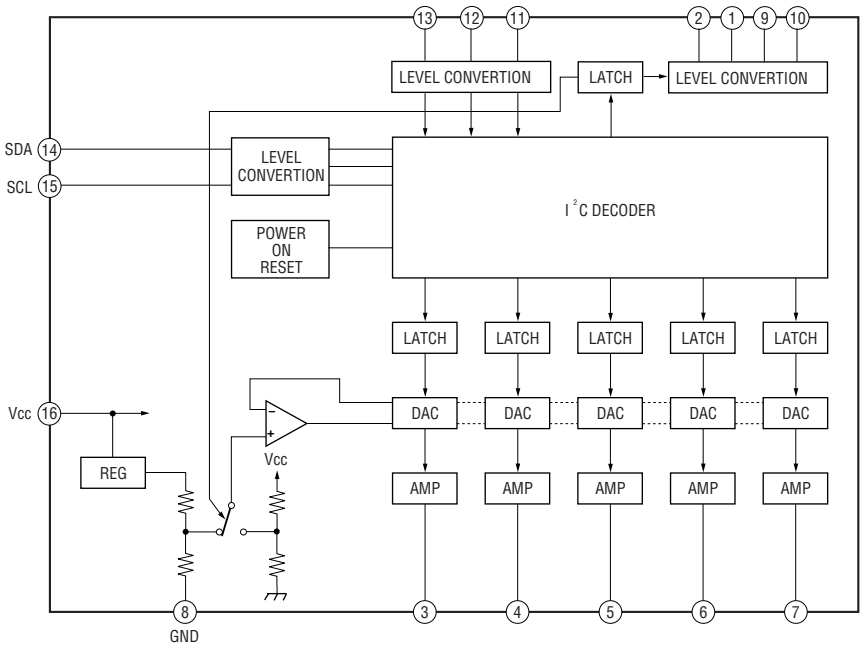
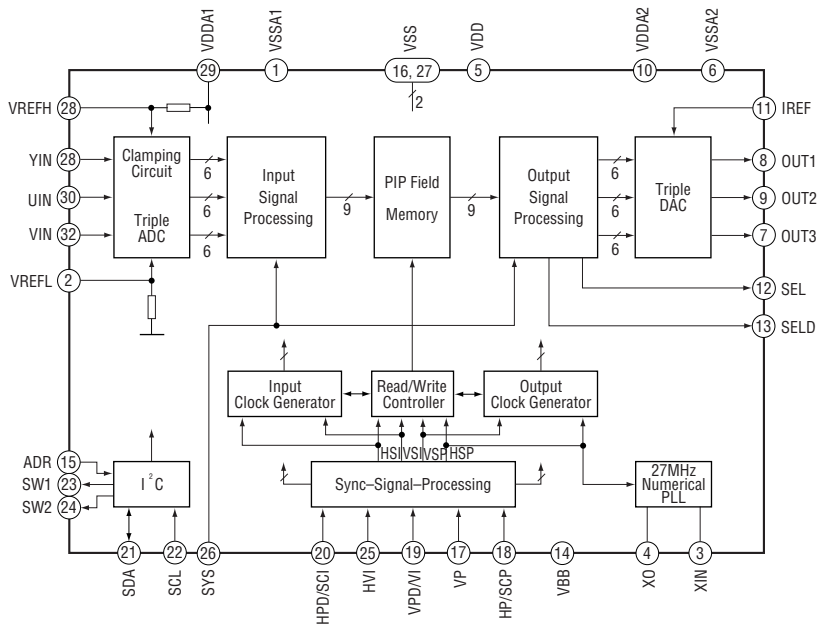
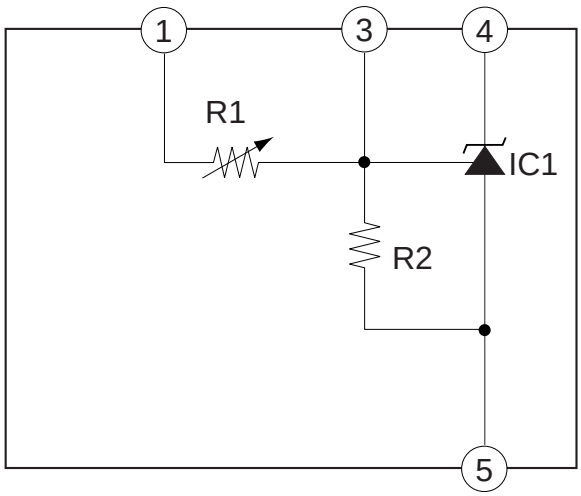


A BOARD : IC1905 SDA9288



G BOARD : IC654 DM-58



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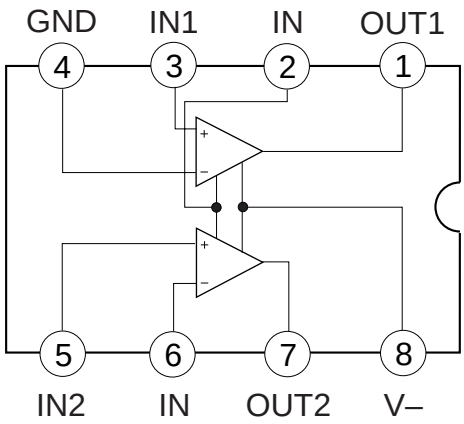

6-7. SEMICONDUCTORS

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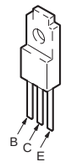

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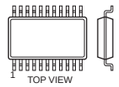

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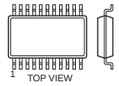

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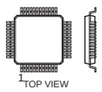

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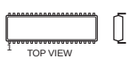

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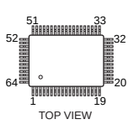

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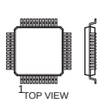

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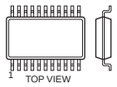

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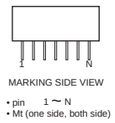

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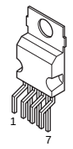

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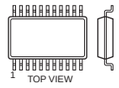

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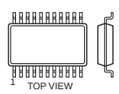

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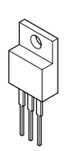

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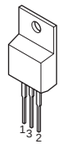

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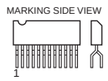

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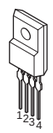

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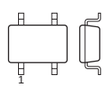

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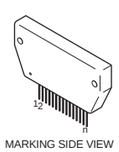

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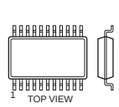

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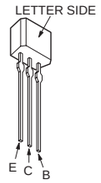

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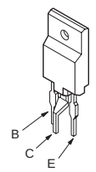

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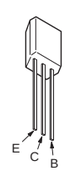

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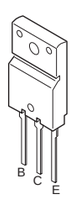

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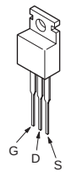

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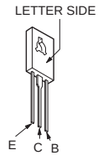

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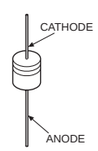

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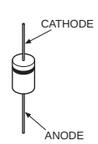

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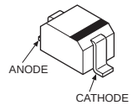
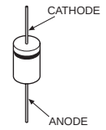
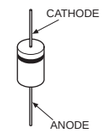


D1NL20U



D1NS6
EL1Z
GP08DPKG23
RGP02-20EL-6394
RGP10GPKG23
RGP15J-6040G23



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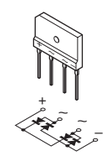
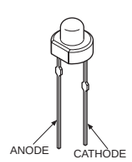


SLR-325VCT31



SECTION 7
EXPLODED VIEWS

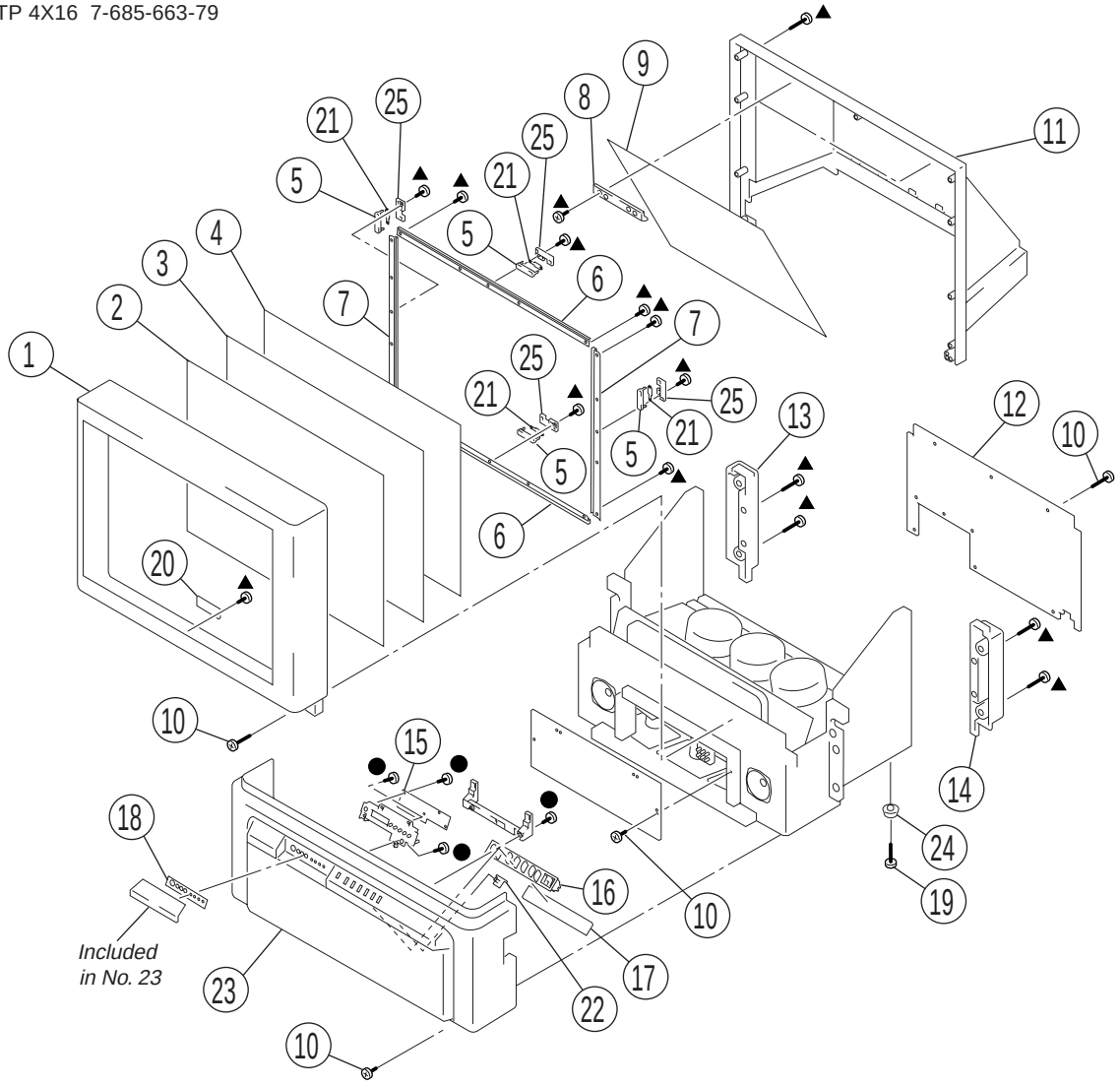
NOTE:

- Items with no part number and no description are not stocked because they are seldom required for routine service
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critial for safety.
Replace only with part number specified.

7-1. COVER

● : +BVTP 3X12 7-685-648-79
▲ : +BVTP 4X16 7-685-663-79

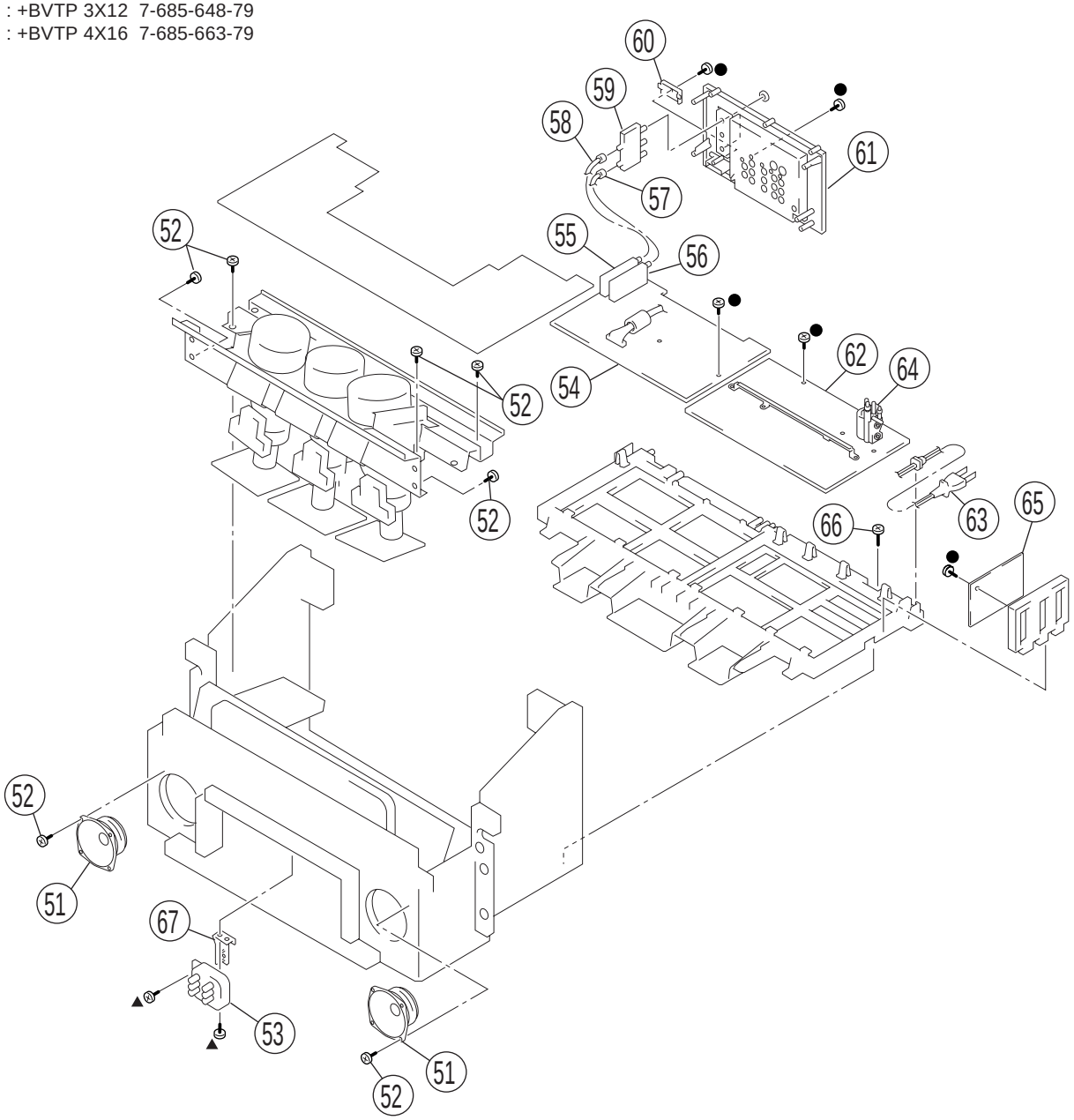


REF. NO.		PART NO.	DESCRIPTION	REMARK
1	*	X-4037-770-2	BEZEL (43) ASSY	
2		4-078-189-11	SCREEN (43), CONTRAST	
3		4-070-284-11	PLATE (L), DIFFUSION	
4		4-070-285-12	PLATE (43F), DIFFUSION	
5	*	4-105-155-01	COVER, SENSOR	
6	*	4-076-698-11	HOLDER, SCREEN	
7	*	4-076-698-31	HOLDER, SCREEN	
8	*	4-066-129-01	HOLDER, MIRROR	
9		4-076-587-01	MIRROR (43)	
10		4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	
11	*	4-076-588-01	COVER (43), MIRROR	
12	*	4-078-192-01	BOARD (43), REAR	
13		4-069-703-01	CAP (L), CONTROL	
14		4-069-704-01	CAP (R), CONTROL	
15	*	A-1372-863-A	HB BOARD, COMPLETE	
16		4-069-681-21	BUTTON, MULTI	
17	*	A-1372-862-A	HA BOARD, COMPLETE	
18		4-078-187-01	LABEL, CONTROL	
19		4-378-522-01	SCREW, TAPPING, HEXAGON HEAD	
20	*	A-1372-864-A	HC BOARD, COMPLETE	
21		1-528-864-00	BATTERY, SOLAR	
22		4-069-682-01	GUIDE, LED	
23	*	X-4039-436-1	PANEL ASSY, CONTROL	
24		4-076-577-01	FOOT	
25	*	4-066-132-01	HOLDER, SENSOR	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-2. CHASSIS

● : +BVTP 3X12 7-685-648-79
▲ : +BVTP 4X16 7-685-663-79

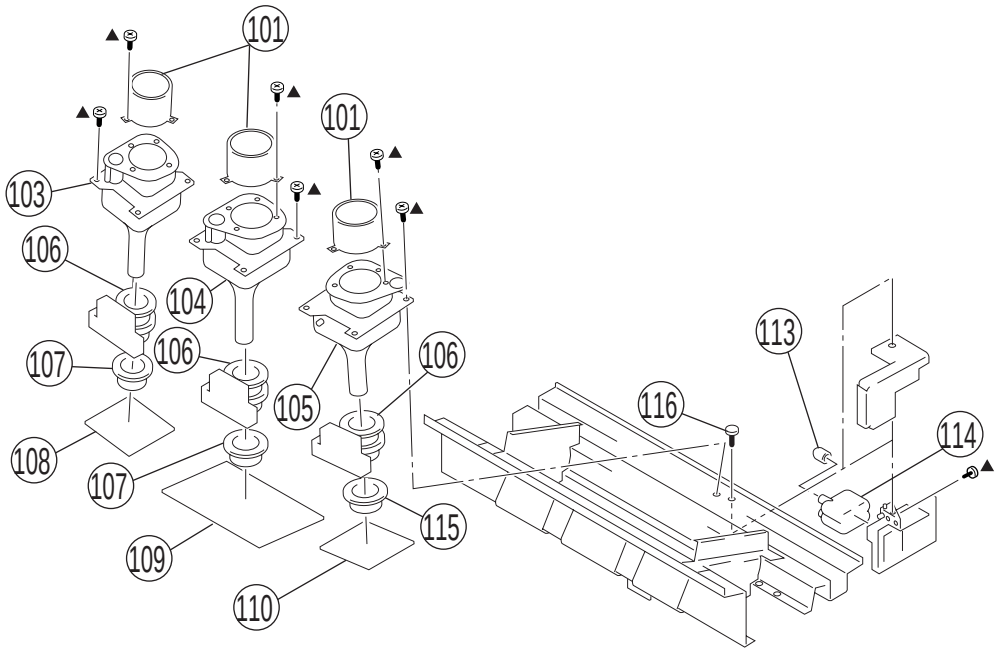


REF. NO.		PART NO.	DESCRIPTION	REMARK
51		1-529-396-13	SPEAKER (5CM)	
52		4-378-522-31	SCREW, TAPPING, HEXAGON HEAD	
53	⚠	1-223-925-11	RESISTOR ASSY (HIGH-VOLTAGE) (FOCUS PACK)	
54	*	A-1299-300-A	A BOARD, COMPLETE (XR432K90)	
	*	A-1299-301-A	A BOARD, COMPLETE (XR432N90)	
55		8-598-475-01	TUNER, FSS BTF-WL46 (TU151) (XR432K90)	
		8-598-477-10	TUNER, FSS BTF-WG46 (TU151) (XR432N90)	
56		8-598-430-00	TUNER, FSS BTF-FA401 (TU152)	
57	*	1-557-056-31	CABLE, P-P	
58		1-556-945-21	CABLE, P-P	
59	⚠	1-771-787-11	SWITCH, RF ANTENNA	
60		4-069-675-01	CAP, TERMINAL BOARD	
61		4-069-674-11	TERMINAL BOARD	
62	*	A-1316-535-A	G BOARD, COMPLETE	
63	⚠	1-775-468-11	CORD, POWER (WITH CONNECTOR)	
64	⚠	1-453-238-31	FBT ASSY (T504)	
65	*	A-1241-433-A	FA BOARD, COMPLETE	
66		4-378-522-01	SCREW, TAPPING, HEXAGON HEAD	
67	*	4-076-722-01	BRACKET, FP	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-3. PICTURE TUBE

▲ : +BVTP 4X16 7-685-663-79



REF. NO.	PART NO.	DESCRIPTION	REMARK
101	4-056-258-11	LENS (DELTA 78)	
103	⚠ 8-733-571-35	CRT 07MXC2(R)(NEW GUN)	
104	⚠ 8-733-570-35	CRT 07MXC2(G)(NEW GUN)	
105	⚠ 8-733-574-15	CRT 07MAC2(B)(HEATER)	
106	⚠ 1-451-496-11	DEFLECTION YOKE	
107	⚠ 1-452-790-21	NECK ASSY	
108	* A-1332-088-A	CR BOARD, COMPLETE	
109	* A-1332-089-A	CG BOARD, COMPLETE	
110	* A-1332-090-A	CB BOARD, COMPLETE	
113	4-373-137-01	CAP (Z), RUBBER	
114	⚠ 8-598-955-30	BLOCK ASSY, HIGH-VOLTAGE	
115	⚠ 1-452-909-31	MAGNET ASSY, 4 POLE	
116	4-052-894-01	SCREW (4X20), HEAD TAPPING	

FA A

SECTION 8
ELECTRICAL PARTS LIST

The components identified by shading and mark ⚠ are critial for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- The components identified by in ⊠ this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

- CAPACITORS
  PF : μμ F
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION			REMARK
*	A-1241-433-A	FA BOARD, COMPLETE			
		**********			
	1-533-223-11	CLIP,FUSE			
		<CAPACITOR>			
C6002 ⚠	1-104-706-11	MYLAR	0.22μF	20%	250V
C6003	1-119-886-51	CERAMIC	470pF	10%	250V
C6004	1-104-708-11	MYLAR	0.47μF	20%	250V
C6005	1-119-886-51	CERAMIC	470pF	10%	250V
C6010	1-119-894-51	CERAMIC	0.0022μF	20%	250V
C6011	1-119-894-51	CERAMIC	0.0022μF	20%	250V
C6012	1-119-894-51	CERAMIC	0.0022μF	20%	250V
		<CONNECTOR>			
CN6002*	1-580-843-11	PIN, CONNECTOR (POWER)			
CN6003	1-695-915-11	TAB (CONTACT)			
CN6005*	1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P			
CN6006*	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P			
CN6007	1-695-915-11	TAB (CONTACT)			
		<DIODE>			
D6001 ⚠	8-719-510-53	DIODE D4SB60L			
		<FUSE>			
F6001 ⚠	1-532-506-51	FUSE 6.3A/250V			
		<COIL>			
L6001 ⚠	1-424-248-11	TRANSFORMER, LINE FILTER			
L6002 ⚠	1-424-248-11	TRANSFORMER, LINE FILTER			
		<RESISTOR>			
R6001	1-218-265-11	METAL	8.2M	5%	1W
R6002 ⚠	1-219-512-11	CARBON	2.2M	5%	1/2W
R6003 ⚠	1-240-881-11	CMT,MELF	0.82	5%	20W
R6004 ⚠	1-205-998-11	CEMENTED	1	5%	10W
R6005 ⚠	1-240-881-11	CMT,MELF	0.82	5%	20W
		<VARISTOR>			
VD6001 ⚠	1-801-073-31	VARISTOR TNR14V471K660			
VD6003	1-803-614-11	VARISTOR			
**********					
*	A-1299-300-A	A BOARD, COMPLETE (XR432K90)			
		**********			
*	A-1299-301-A	A BOARD, COMPLETE (XR432N90)			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
		<CAPACITOR>			
C002	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C003	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C004	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V
C005	1-126-935-11	ELECT	470μF	20%	6.3V
C006	1-126-960-11	ELECT	1μF	20%	50V
C015	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C016	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V
C039	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C040	1-126-916-11	ELECT	1000μF	20%	6.3V
C041	1-163-229-11	CERAMIC CHIP	12pF	5%	50V
C042	1-126-960-11	ELECT	1μF	20%	50V
C044	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C072	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C080	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C081	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C082	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C085	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C086	1-163-229-11	CERAMIC CHIP	12pF	5%	50V
C087	1-126-964-11	ELECT	10μF	20%	50V
C091	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C093	1-126-933-11	ELECT	100μF	20%	16V
C094	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C098	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C099	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C100	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C101	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C102	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C103	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C104	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V

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REF. NO.	PART NO.	DESCRIPTION			REMARK
C105	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C106	1-163-227-11	CERAMIC CHIP	10pF	0.50pF	50V
C107	1-128-551-11	ELECT	22µF	20%	25V
C126	1-128-551-11	ELECT	22µF	20%	25V
C128	1-128-551-11	ELECT	22µF	20%	25V
C151	1-126-935-11	ELECT	470µF	20%	16V
C152	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C153	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C154	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C155	1-128-551-11	ELECT	22µF	20%	25V
C156	1-126-933-11	ELECT	100µF	20%	16V
C157	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C159	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C161	1-126-968-11	ELECT	100µF	20%	50V
C162	1-126-960-11	ELECT	1µF	20%	50V
C163	1-126-959-11	ELECT	0.47µF	20%	50V
C164	1-128-551-11	ELECT	22µF	20%	25V
C165	1-128-551-11	ELECT	22µF	20%	25V
C166	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C167	1-126-935-11	ELECT	470µF	20%	16V
C168	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C170	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C171	1-126-933-11	ELECT	100µF	20%	16V
C172	1-126-964-11	ELECT	10µF	20%	50V
C173	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C174	1-126-933-11	ELECT	100µF	20%	16V
C175	1-128-551-11	ELECT	22µF	20%	25V
C176	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C177	1-126-959-11	ELECT	0.47µF	20%	50V
C178	1-126-960-11	ELECT	1µF	20%	50V
C179	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C180	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C276	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C277	1-126-959-11	ELECT	0.47µF	20%	50V
C279	1-126-959-11	ELECT	0.47µF	20%	50V
C280	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C281	1-130-495-00	MYLAR	0.1µF	5%	50V
C282	1-130-495-00	MYLAR	0.1µF	5%	50V
C283	1-130-495-00	MYLAR	0.1µF	5%	50V
C284	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C285	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C286	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C287	1-126-964-11	ELECT	10µF	20%	50V
C288	1-130-495-00	MYLAR	0.1µF	5%	50V
C289	1-137-581-11	FILM	0.1µF	5%	100V
C290	1-126-935-11	ELECT	470µF	20%	16V
C291	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C293	1-164-182-11	CERAMIC CHIP	0.0033µF	10%	50V
C294	1-130-495-00	MYLAR	0.1µF	5%	50V
C296	1-126-961-11	ELECT	2.2µF	20%	50V
C297	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C299	1-126-959-11	ELECT	0.47µF	20%	50V
C300	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C301	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C302	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C303	1-126-933-11	ELECT	100µF	20%	16V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C304	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C305	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C306	1-126-959-11	ELECT	0.47µF	20%	50V
C307	1-126-959-11	ELECT	0.47µF	20%	50V
C308	1-126-963-11	ELECT	4.7µF	20%	50V
C309	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C310	1-163-229-11	CERAMIC CHIP	12pF	5%	50V
C311	1-126-960-11	ELECT	1µF	20%	50V
C312	1-115-419-11	CERAMIC CHIP	3300pF	5%	25V
C313	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C314	1-128-551-11	ELECT	22µF	20%	25V
C316	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C317	1-126-947-11	ELECT	47µF	20%	16V
C318	1-126-933-11	ELECT	100µF	20%	16V
C319	1-126-964-11	ELECT	10µF	20%	50V
C320	1-126-934-11	ELECT	220µF	20%	16V
C321	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C323	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C324	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C325	1-126-964-11	ELECT	10µF	20%	50V
C326	1-126-947-11	ELECT	47µF	20%	25V
C327	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C328	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C329	1-128-551-11	ELECT	22µF	20%	25V
C330	1-128-551-11	ELECT	22µF	20%	25V
C331	1-128-551-11	ELECT	22µF	20%	25V
C332	1-128-551-11	ELECT	22µF	20%	25V
C418	1-126-964-11	ELECT	10µF	20%	50V
C427	1-126-964-11	ELECT	10µF	20%	50V
C433	1-126-963-11	ELECT	4.7µF	20%	50V
C437	1-130-489-00	MYLAR	0.033µF	5%	50V
C438	1-126-947-11	ELECT	47µF	20%	25V
C439	1-126-960-11	ELECT	1µF	20%	50V
C440	1-126-963-11	ELECT	4.7µF	20%	50V
C441	1-130-477-00	MYLAR	0.0033µF	5%	50V
C442	1-130-489-00	MYLAR	0.033µF	5%	50V
C443	1-130-471-00	MYLAR	0.001µF	5%	50V
C444	1-126-963-11	ELECT	4.7µF	20%	50V
C445	1-126-963-11	ELECT	4.7µF	20%	50V
C446	1-130-477-00	MYLAR	0.0033µF	5%	50V
C447	1-130-489-00	MYLAR	0.033µF	5%	50V
C448	1-130-471-00	MYLAR	0.001µF	5%	50V
C449	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C450	1-126-963-11	ELECT	4.7µF	20%	50V
C451	1-126-933-11	ELECT	100µF	20%	16V
C453	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C454	1-130-489-00	MYLAR	0.033µF	5%	50V
C456	1-126-933-11	ELECT	100µF	20%	16V
C457	1-126-934-11	ELECT	220µF	20%	16V
C458	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C459	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C460	1-126-943-11	ELECT	2200µF	20%	25V
C461	1-126-943-11	ELECT	2200µF	20%	25V
C462	1-126-961-11	ELECT	2.2µF	20%	50V
C463	1-126-961-11	ELECT	2.2µF	20%	50V

A

REF. NO.	PART NO.	DESCRIPTION			REMARK
C464	1-126-933-11	ELECT	100µF	20%	16V
C465	1-128-551-11	ELECT	22µF	20%	25V
C466	1-128-551-11	ELECT	22µF	20%	25V
C467	1-126-947-11	ELECT	47µF	20%	25V
C468	1-126-963-11	ELECT	4.7µF	20%	50V
C469	1-128-551-11	ELECT	22µF	20%	25V
C470	1-126-947-11	ELECT	47µF	20%	25V
C473	1-104-665-11	ELECT	100µF	20%	25V
C474	1-130-495-00	MYLAR	0.1µF	5%	50V
C475	1-130-495-00	MYLAR	0.1µF	5%	50V
C476	1-130-495-00	MYLAR	0.1µF	5%	50V
C477	1-130-495-00	MYLAR	0.1µF	5%	50V
C681	1-128-551-11	ELECT	22µF	20%	25V
C682	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C683	1-126-935-11	ELECT	470µF	20%	16V
C684	1-126-933-11	ELECT	100µF	20%	16V
C685	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C686	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C687	1-128-551-11	ELECT	22µF	20%	25V
C688	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C801	1-163-143-00	CERAMIC CHIP	0.0012µF	5%	50V
C802	1-163-016-00	CERAMIC CHIP	0.0039µF	10%	50V
C803	1-163-016-00	CERAMIC CHIP	0.0039µF	10%	50V
C804	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C805	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C806	1-126-947-11	ELECT	47µF	20%	25V
C807	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C808	1-163-016-00	CERAMIC CHIP	0.0039µF	10%	50V
C809	1-163-016-00	CERAMIC CHIP	0.0039µF	10%	50V
C810	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C811	1-126-947-11	ELECT	47µF	20%	25V
C812	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C813	1-126-947-11	ELECT	47µF	20%	25V
C814	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C815	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C816	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C817	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C818	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C819	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C820	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C821	1-126-947-11	ELECT	47µF	20%	25V
C822	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C823	1-126-947-11	ELECT	47µF	20%	25V
C824	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C825	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C826	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C827	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C828	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C829	1-107-823-11	CERAMIC CHIP	0.47µF	10%	16V
C830	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C831	1-126-947-11	ELECT	47µF	20%	25V
C832	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C833	1-126-947-11	ELECT	47µF	20%	25V
C834	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C835	1-163-235-11	CERAMIC CHIP	22pF	5%	50V
C842	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C843	1-126-947-11	ELECT	47µF	20%	25V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C845	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C848	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C849	1-126-947-11	ELECT	47µF	20%	25V
C850	1-126-947-11	ELECT	47µF	20%	25V
C851	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C852	1-126-947-11	ELECT	47µF	20%	25V
C853	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C854	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C855	1-163-001-11	CERAMIC CHIP	220pF	10%	50V
C856	1-126-947-11	ELECT	47µF	20%	25V
C858	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C862	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C863	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C864	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C865	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C866	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C867	1-109-982-11	CERAMIC CHIP	1µF	10%	10V
C868	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C869	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C870	1-126-947-11	ELECT	47µF	20%	25V
C871	1-126-963-11	ELECT	4.7µF	20%	50V
C872	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C873	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C875	1-126-947-11	ELECT	47µF	20%	25V
C876	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C877	1-126-947-11	ELECT	47µF	20%	25V
C878	1-126-947-11	ELECT	47µF	20%	25V
C879	1-126-947-11	ELECT	47µF	20%	25V
C880	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C881	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C882	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C883	1-126-947-11	ELECT	47µF	20%	25V
C884	1-126-947-11	ELECT	47µF	20%	25V
C885	1-126-947-11	ELECT	47µF	20%	25V
C886	1-126-947-11	ELECT	47µF	20%	25V
C887	1-126-947-11	ELECT	47µF	20%	25V
C888	1-126-947-11	ELECT	47µF	20%	25V
C889	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C890	1-126-947-11	ELECT	47µF	20%	25V
C891	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C892	1-126-947-11	ELECT	47µF	20%	25V
C893	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C894	1-126-947-11	ELECT	47µF	20%	25V
C897	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C898	1-126-934-11	ELECT	220µF	20%	16V
C899	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C900	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C901	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C902	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C903	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C904	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C905	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C906	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C907	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C908	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C909	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V

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REF. NO.	PART NO.	DESCRIPTION			REMARK
C910	1-163-222-11	CERAMIC CHIP	5pF	0.25pF	50V
C911	1-164-690-91	CERAMIC CHIP	0.0022µF	5%	50V
C912	1-126-947-11	ELECT	47µF	20%	25V
C913	1-126-947-11	ELECT	47µF	20%	25V
C914	1-126-947-11	ELECT	47µF	20%	25V
C915	1-126-947-11	ELECT	47µF	20%	25V
C916	1-126-947-11	ELECT	47µF	20%	25V
C917	1-126-947-11	ELECT	47µF	20%	25V
C918	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C919	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C920	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C921	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C922	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C923	1-163-275-11	CERAMIC CHIP	0.001µF	5%	50V
C926	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C927	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C928	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C929	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C930	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C931	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C932	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C933	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C934	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C935	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C936	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C937	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C938	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C951	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C952	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C953	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C954	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C955	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C956	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C957	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C958	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C959	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C960	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C961	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C962	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C963	1-126-947-11	ELECT	47µF	20%	25V
C964	1-126-947-11	ELECT	47µF	20%	25V
C965	1-126-947-11	ELECT	47µF	20%	25V
C966	1-126-947-11	ELECT	47µF	20%	25V
C967	1-126-947-11	ELECT	47µF	20%	25V
C968	1-126-947-11	ELECT	47µF	20%	25V
C969	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C970	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C971	1-126-947-11	ELECT	47µF	20%	25V
C1101	1-126-935-11	ELECT	470µF	20%	16V
C1102	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1103	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1104	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1105	1-128-551-11	ELECT	22µF	20%	25V
C1106	1-128-551-11	ELECT	22µF	20%	25V
C1107	1-126-959-11	ELECT	0.47µF	20%	50V
C1108	1-128-551-11	ELECT	22µF	20%	25V
C1109	1-126-959-11	ELECT	0.47µF	20%	50V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C1110	1-126-959-11	ELECT	0.47µF	20%	50V
C1111	1-126-959-11	ELECT	0.47µF	20%	50V
C1112	1-128-551-11	ELECT	22µF	20%	25V
C1113	1-128-551-11	ELECT	22µF	20%	25V
C1114	1-128-551-11	ELECT	22µF	20%	25V
C1115	1-126-959-11	ELECT	0.47µF	20%	50V
C1116	1-126-964-11	ELECT	10µF	20%	50V
C1117	1-126-964-11	ELECT	10µF	20%	50V
C1118	1-128-551-11	ELECT	22µF	20%	25V
C1119	1-126-964-11	ELECT	10µF	20%	50V
C1120	1-126-964-11	ELECT	10µF	20%	50V
C1121	1-126-960-11	ELECT	1µF	20%	50V
C1122	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1123	1-128-551-11	ELECT	22µF	20%	25V
C1124	1-126-959-11	ELECT	0.47µF	20%	50V
C1125	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1126	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1127	1-126-959-11	ELECT	0.47µF	20%	50V
C1129	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1130	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1131	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1132	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1133	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1134	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1601	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1602	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C1603	1-164-344-11	CERAMIC CHIP	0.068µF	10%	25V
C1604	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C1605	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1606	1-117-720-11	CERAMIC CHIP	4.7µF		10V
C1607	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1608	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C1610	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1613	1-164-344-11	CERAMIC CHIP	0.068µF	10%	25V
C1614	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C1615	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1617	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C1618	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1619	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C1620	1-126-947-11	ELECT	47µF	20%	25V
C1701	1-128-551-11	ELECT	22µF	20%	25V
C1702	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1703	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1704	1-126-933-11	ELECT	100µF	20%	16V
C1705	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1706	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1707	1-128-551-11	ELECT	22µF	20%	25V
C1708	1-128-551-11	ELECT	22µF	20%	25V
C1709	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1710	1-163-257-11	CERAMIC CHIP	180pF	5%	50V
C1711	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1712	1-128-551-11	ELECT	22µF	20%	25V
C1713	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C1714	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50
C1715	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1716	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1717	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V

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REF. NO.	PART NO.	DESCRIPTION			REMARK
C1718	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1719	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C1720	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1721	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1722	1-128-551-11	ELECT	22µF	20%	25V
C1723	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1724	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1725	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1726	1-128-551-11	ELECT	22µF	20%	25V
C1727	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1728	1-128-551-11	ELECT	22µF	20%	25V
C1729	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1730	1-126-959-11	ELECT	0.47µF	20%	50V
C1731	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C1732	1-163-231-11	CERAMIC CHIP	15pF	5%	50V
C1733	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1735	1-163-127-00	CERAMIC CHIP	270pF	5%	50V
C1901	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1902	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1903	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1904	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1905	1-128-551-11	ELECT	22µF	20%	25V
C1906	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C1907	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C1908	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1909	1-164-489-11	CERAMIC CHIP	0.22µF	10%	16V
C1910	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1911	1-128-551-11	ELECT	22µF	20%	25V
C1912	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1913	1-164-346-11	CERAMIC CHIP	1µF		16V
C1914	1-163-017-00	CERAMIC CHIP	0.0047µF	10%	50V
C1915	1-164-346-11	CERAMIC CHIP	1µF		16V
C1916	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1917	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1918	1-164-005-11	CERAMIC CHIP	0.47µF		16V
C1919	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1920	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1921	1-126-963-11	ELECT	4.7µF	20%	50V
C1922	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1923	1-163-005-11	CERAMIC CHIP	470pF	10%	50V
C1924	1-126-960-11	ELECT	1µF	20%	50V
C1925	1-164-005-11	CERAMIC CHIP	0.47µF		16V
C1926	1-128-551-11	ELECT	22µF	20%	25V
C1927	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1928	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1929	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1930	1-163-229-11	CERAMIC CHIP	12pF	5%	50V
C1931	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1932	1-128-551-11	ELECT	22µF	20%	25V
C1933	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1934	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1935	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1936	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1937	1-128-551-11	ELECT	22µF	20%	25V
C1938	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1939	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1940	1-128-551-11	ELECT	22µF	20%	25V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C1941	1-128-551-11	ELECT	22µF	20%	25V
C1942	1-128-551-11	ELECT	22µF	20%	25V
C1943	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1944	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1945	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1946	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C1947	1-163-239-11	CERAMIC CHIP	33pF	5%	50V
C1948	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1949	1-126-960-11	ELECT	1µF	20%	50V
C1950	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1951	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1952	1-128-551-11	ELECT	22µF	20%	25V
C1953	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1954	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1955	1-163-259-91	CERAMIC CHIP	220pF	5%	50V
C1958	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C1959	1-163-251-11	CERAMIC CHIP	100pF	5%	50V
C1960	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1961	1-128-551-11	ELECT	22µF	20%	25V
C1962	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1963	1-126-960-11	ELECT	1µF	20%	50V
C1964	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1965	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1966	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C1967	1-128-551-11	ELECT	22µF	20%	25V
C1969	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1970	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1971	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V
C1972	1-163-021-91	CERAMIC CHIP	0.01µF	10%	50V

<CONNECTOR>

CN001	*	1-564-507-11	PLUG, CONNECTOR 4P
CN002	*	1-564-513-11	PLUG, CONNECTOR 10P
CN003		1-573-979-21	CONNECTOR, BOARD TO BOARD 11P
CN151		1-695-915-11	TAB (CONTACT)
CN202	*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P
CN203	*	1-564-509-11	PLUG, CONNECTOR 6P
CN204	*	1-564-512-11	PLUG, CONNECTOR 9P
CN205		1-695-915-11	TAB (CONTACT)
CN402	*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P
CN403	*	1-564-507-11	PLUG, CONNECTOR 4P
CN681	*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P
CN801	*	1-779-892-11	CONNECTOR, BOARD TO BOARD 10P
CN802	*	1-564-511-11	PLUG, CONNECTOR 8P
CN1702		1-764-334-11	PLUG, CONNECTOR 11P

<DIODE>

D001	8-719-988-61	DIODE	1SS355TE-17
D002	8-719-988-61	DIODE	1SS355TE-17
D003	8-719-988-61	DIODE	1SS355TE-17
D004	8-719-069-55	DIODE	UDZS-TE17-5.6B
D005	8-719-988-61	DIODE	1SS355TE-17
D006	8-719-069-55	DIODE	UDZS-TE17-5.6B
D007	8-719-069-55	DIODE	UDZS-TE17-5.6B
D009	8-719-069-55	DIODE	UDZS-TE17-5.6B

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REF. NO.	PART NO.	DESCRIPTION	REMARK
D010	8-719-069-55	DIODE UDZS-TE17-5.6B	
D151	8-719-977-81	DIODE UDZ-TE-17-33B	
D202	8-719-977-28	DIODE UDZS-TE17-10B	
D206	8-719-988-61	DIODE 1SS355TE-17	
D207	8-719-988-61	DIODE 1SS355TE-17	
D208	8-719-069-55	DIODE UDZS-TE17-5.6B	
D209	8-719-988-61	DIODE 1SS355TE-17	
D301	8-719-988-61	DIODE 1SS355TE-17	
D302	8-719-988-61	DIODE 1SS355TE-17	
D303	8-719-988-61	DIODE 1SS355TE-17	
D304	8-719-056-85	DIODE UDZS-TE17-8.2B	
D305	8-719-977-28	DIODE UDZS-TE17-10B	
D402	8-719-988-61	DIODE 1SS355TE-17	
D403	8-719-988-61	DIODE 1SS355TE-17	
D404	8-719-988-61	DIODE 1SS355TE-17	
D405	8-719-988-61	DIODE 1SS355TE-17	
D406	8-719-083-85	DIODE UDZ-TE-17-22B	
D407	8-719-988-61	DIODE 1SS355TE-17	
D408	8-719-988-61	DIODE 1SS355TE-17	
D409	8-719-920-67	DIODE ERC91-02	
D412	8-719-083-85	DIODE UDZ-TE-17-22B	
D413	8-719-083-85	DIODE UDZ-TE-17-22B	
D416	8-719-920-67	DIODE ERC91-02	
D418	8-719-083-85	DIODE UDZ-TE-17-22B	
D420	8-719-988-61	DIODE 1SS355TE-17	
D421	8-719-988-61	DIODE 1SS355TE-17	
D801	8-719-988-61	DIODE 1SS355TE-17	
D802	8-719-988-61	DIODE 1SS355TE-17	
D803	8-719-988-61	DIODE 1SS355TE-17	
D804	8-719-988-61	DIODE 1SS355TE-17	
D805	8-719-069-55	DIODE UDZS-TE17-5.6B	
D806	8-719-069-55	DIODE UDZS-TE17-5.6B	
D807	8-719-069-55	DIODE UDZS-TE17-5.6B	
D808	8-719-069-55	DIODE UDZS-TE17-5.6B	
D809	8-719-988-61	DIODE 1SS355TE-17	
D810	8-719-988-61	DIODE 1SS355TE-17	
D816	8-719-988-61	DIODE 1SS355TE-17	
D817	8-719-988-61	DIODE 1SS355TE-17	
D818	8-719-988-61	DIODE 1SS355TE-17	
D819	8-719-988-61	DIODE 1SS355TE-17	
D820	8-719-988-61	DIODE 1SS355TE-17	
D821	8-719-988-61	DIODE 1SS355TE-17	
D822	8-719-988-61	DIODE 1SS355TE-17	
D823	8-719-988-61	DIODE 1SS355TE-17	
D824	8-719-988-61	DIODE 1SS355TE-17	
D1101	8-719-069-55	DIODE UDZS-TE17-5.6B	
D1102	8-719-977-28	DIODE UDZS-TE17-10B	
D1103	8-719-977-28	DIODE UDZS-TE17-10B	
D1104	8-719-977-28	DIODE UDZS-TE17-10B	
D1105	8-719-977-28	DIODE UDZS-TE17-10B	
D1106	8-719-977-28	DIODE UDZS-TE17-10B	
D1107	8-719-977-28	DIODE UDZS-TE17-10B	
D1108	8-719-977-28	DIODE UDZS-TE17-10B	
D1109	8-719-977-28	DIODE UDZS-TE17-10B	
D1110	8-719-977-28	DIODE UDZS-TE17-10B	
D1111	8-719-977-28	DIODE UDZS-TE17-10B	
D1112	8-719-977-28	DIODE UDZS-TE17-10B	
D1113	8-719-977-28	DIODE UDZS-TE17-10B	
D1114	8-719-977-28	DIODE UDZS-TE17-10B	
D1115	8-719-977-28	DIODE UDZS-TE17-10B	
D1116	8-719-977-28	DIODE UDZS-TE17-10B	
D1117	8-719-977-28	DIODE UDZS-TE17-10B	
D1118	8-719-977-28	DIODE UDZS-TE17-10B	
D1119	8-719-977-28	DIODE UDZS-TE17-10B	
D1120	8-719-988-61	DIODE 1SS355TE-17	
D1121	8-719-977-28	DIODE UDZS-TE17-10B	
D1122	8-719-977-28	DIODE UDZS-TE17-10B	
D1123	8-719-988-61	DIODE 1SS355TE-17	
D1124	8-719-988-61	DIODE 1SS355TE-17	
D1125	8-719-988-61	DIODE 1SS355TE-17	
D1126	8-719-977-28	DIODE UDZS-TE17-10B	
D1127	8-719-977-28	DIODE UDZS-TE17-10B	
D1901	8-719-988-61	DIODE 1SS355TE-17	
D1902	8-719-988-61	DIODE 1SS355TE-17	
D1903	8-719-988-61	DIODE 1SS355TE-17	
D1904	8-719-988-61	DIODE 1SS355TE-17	
D1905	8-719-988-61	DIODE 1SS355TE-17	
D1906	8-719-988-61	DIODE 1SS355TE-17	

<FERRITE BEAD>

FB001	1-414-135-11	FERRITE	0µH		
FB151	1-414-135-11	FERRITE	0µH		
FB152	1-414-135-11	FERRITE	0µH		
FB206	1-216-017-91	RES-CHIP	47	5%	1/10W
FB209	1-216-017-91	RES-CHIP	47	5%	1/10W
FB212	1-216-295-91	SHORT	0		
FB215	1-216-295-91	SHORT	0		
FB216	1-216-295-91	SHORT	0		
FB217	1-216-295-91	SHORT	0		
FB301	1-216-295-91	SHORT	0		
FB801	1-414-135-11	FERRITE	0µH		
FB802	1-414-135-11	FERRITE	0µH		
FB803	1-414-135-11	FERRITE	0µH		
FB804	1-500-245-11	FERRITE	0µH		
FB805	1-500-245-11	FERRITE	0µH		
FB806	1-414-135-11	FERRITE	0µH		
FB807	1-414-135-11	FERRITE	0µH		
FB808	1-414-135-11	FERRITE	0µH		
FB1701	1-414-135-11	FERRITE	0µH		
FB1702	1-414-135-11	FERRITE	0µH		
FB1902	1-414-135-11	FERRITE	0µH		
FB2007	1-216-017-91	RES-CHIP	47	5%	1/10W

<FILTER>

FL1701	1-239-847-11	FILTER, LOW PASS
FL1702	1-239-847-11	FILTER, LOW PASS
FL1703	1-239-847-11	FILTER, LOW PASS

<IC>

IC001	8-759-352-91	IC PST9143NL
IC002	8-752-916-30	IC CXP750010-027Q

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REF. NO.	PART NO.	DESCRIPTION	REMARK
IC004	8-759-675-64	IC M24C08-MN6T(A)	
IC206	8-752-091-25	IC CXA2147Q	
IC301	8-759-353-02	IC NJM2533M(TE2)	
IC403	8-759-578-88	IC BH3868FS-E2	
IC404	8-759-100-96	IC NJM4558M-T2	
IC406	8-759-190-89	IC TDA7265	
IC681	8-759-459-99	IC PQ09RD11	
IC682	8-759-459-99	IC PQ09RD11	
IC801	8-759-488-29	IC TC7W66FU(TE12R)	
IC802	8-759-394-80	IC NJM2058M-TE2	
IC803	8-759-589-66	IC CM0006CF	
IC804	8-759-394-80	IC NJM2058M-TE2	
IC805	8-752-903-32	IC CXP86324-024Q	
IC806	8-759-394-80	IC NJM2058M-TE2	
IC807	8-759-546-22	IC µPD6376GS-E2	
IC808	8-759-032-11	IC MC74HC04AF(EL)	
IC809	8-759-669-75	IC TLC2932IPW-R	
IC810	8-759-468-90	IC ST24E16FM6TR	
IC811	8-759-352-91	IC PST9143NL	
IC812	8-759-235-19	IC TC74HC08AF(EL)	
IC814	8-759-032-20	IC MC74HC32AF(EL)	
IC815	8-759-546-22	IC µPD6376GS-E2	
IC816	8-759-546-22	IC µPD6376GS-E2	
IC817	8-759-546-22	IC µPD6376GS-E2	
IC818	8-759-100-96	IC NJM4558M-TE2	
IC819	8-759-106-02	IC µPC4570G2-E2	
IC820	8-759-106-02	IC µPC4570G2-E2	
IC821	8-759-106-02	IC µPC4570G2-E2	
IC822	8-759-106-02	IC µPC4570G2-E2	
IC823	8-759-106-02	IC µPC4570G2-E2	
IC824	8-759-106-02	IC µPC4570G2-E2	
IC1101	8-752-081-32	IC CXA2079Q	
IC1601	8-759-638-04	IC Z8622912SSC-00TR	
IC1602	8-759-638-05	IC Z8613012SSC-00TR	
IC1603	8-759-352-91	IC PST9143NL	
IC1701	8-759-701-75	IC NJM7805FA	
IC1702	8-759-568-32	IC TC90A53F(ELP)	
IC1901	8-752-080-75	IC CXA2039M-T6	
IC1902	8-752-086-80	IC CXA2019AQ-T4	
IC1903	8-759-932-69	IC BU4053BCF-T2	
IC1904	8-752-058-68	IC CXA1315M-T4	
IC1905	8-759-655-57	IC SDA9288XE-B0121-GEG	

<JACK>

J1101	1-774-751-11	TERMINAL BLOCK, S (VIDEO 3 IN)	
J1102	1-774-751-11	TERMINAL BLOCK, S (VIDEO 1 IN)	
J1103	1-507-667-00	JACK, MIC (CONTROL S OUT)	
J1104	1-774-750-11	JACK BLOCK, PIN (AUDIO (VAR/FIX) OUT)	
J1105	1-774-749-11	JACK BLOCK, PIN (MONITOR OUT)	
J1106	1-785-082-11	JACK BLOCK, PIN 3P (Y/PB/PR)	

<COIL>

L001	1-414-183-41	INDUCTOR	10µH
L004	1-410-397-21	FERRITE	1.1µH
L151	1-414-187-11	INDUCTOR	47µH
L152	1-414-187-11	INDUCTOR	47µH
L153	1-414-187-11	INDUCTOR	47µH
L154	1-414-183-41	INDUCTOR	10µH
L155	1-414-187-11	INDUCTOR	47µH
L211	1-414-857-11	INDUCTOR	100µH
L212	1-414-856-11	INDUCTOR	10µH
L681	1-406-975-21	INDUCTOR	47µH
L801	1-414-183-41	INDUCTOR	10µH
L802	1-414-183-41	INDUCTOR	10µH
L803	1-414-183-41	INDUCTOR	10µH
L804	1-414-183-41	INDUCTOR	10µH
L809	1-414-183-41	INDUCTOR	10µH
L816	1-414-183-41	INDUCTOR	10µH
L823	1-410-494-11	INDUCTOR	1mH
L824	1-410-494-11	INDUCTOR	1mH
L825	1-410-494-11	INDUCTOR	1mH
L826	1-410-494-11	INDUCTOR	1mH
L827	1-410-494-11	INDUCTOR	1mH
L828	1-410-494-11	INDUCTOR	1mH
L829	1-414-183-41	INDUCTOR	10µH
L830	1-407-495-00	INDUCTOR	1.8mH
L831	1-407-495-00	INDUCTOR	1.8mH
L832	1-407-495-00	INDUCTOR	1.8mH
L833	1-407-495-00	INDUCTOR	1.8mH
L834	1-407-495-00	INDUCTOR	1.8mH
L835	1-407-495-00	INDUCTOR	1.8mH
L843	1-414-183-41	INDUCTOR	10µH
L1703	1-414-187-11	INDUCTOR	47µH

<IC LINK>

PS401	1-532-984-11	LINK, IC 2A/90V	
PS402	1-532-984-11	LINK, IC 2A/90V	

<TRANSISTOR>

Q001	8-729-424-02	TRANSISTOR	2SB709A-QRS-TX
Q002	8-729-422-27	TRANSISTOR	2SD601A-QR
Q003	8-729-027-38	TRANSISTOR	DTA144EKA-T146
Q004	8-729-424+02	TRANSISTOR	2SB709A-QRS-TX
Q005	8-729-027-38	TRANSISTOR	DTA144EKA-T146
Q006	8-729-027-38	TRANSISTOR	DTA144EKA-T146
Q007	1-801-806-11	TRANSISTOR	DTC144EKA-T146
Q008	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q009	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q010	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q011	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q012	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q013	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q014	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q015	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q016	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q017	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q018	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q019	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX
Q020	8-729-422-27	TRANSISTOR	2SD601A-QRS-TX

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REF. NO.	PART NO.	DESCRIPTION	REMARK
Q021	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q022	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q023	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q024	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q151	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q152	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q153	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q205	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q217	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q218	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q219	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q220	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q221	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q222	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q223	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q224	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q225	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q226	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q227	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q228	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q229	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q230	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q231	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q232	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q301	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q302	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q303	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q304	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q305	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q306	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q401	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q402	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q403	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q404	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q408	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q409	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q410	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q411	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q801	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q802	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q803	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q804	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q805	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q806	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q807	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q808	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q809	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q811	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q812	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q813	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q814	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1101	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q1102	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1103	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1104	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1105	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q1106	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1107	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1108	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q1109	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q1110	8-729-027-56	TRANSISTOR DTC143TKA-T146	
Q1111	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1112	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1113	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1114	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1115	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1116	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1117	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1118	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1119	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1121	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q1122	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1124	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1125	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1601	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1602	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1603	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1701	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1702	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1703	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1704	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1705	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1706	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1707	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1708	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1709	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1901	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1902	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1903	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1904	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1905	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1906	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1907	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1908	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1909	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1910	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1911	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1913	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1914	8-729-216-22	TRANSISTOR 2SB709A-QRS-TX	
Q1915	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1916	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1917	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1918	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	
Q1920	8-729-422-27	TRANSISTOR 2SD601A-QRS-TX	

<RESISTOR>

R001	1-216-041-00	RES-CHIP	470	5%	1/10W
R002	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R003	1-216-049-91	RES-CHIP	1K	5%	1/10W
R004	1-216-121-91	RES-CHIP	1M	5%	1/10W
R005	1-216-097-91	RES-CHIP	100K	5%	1/10W
R006	1-216-033-00	RES-CHIP	220	5%	1/10W
R007	1-216-073-00	RES-CHIP	10K	5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R008	1-216-033-00	RES-CHIP	220	5%	1/10W
R009	1-216-033-00	RES-CHIP	220	5%	1/10W
R010	1-216-073-00	RES-CHIP	10K	5%	1/10W
R011	1-216-049-91	RES-CHIP	1K	5%	1/10W
R013	1-216-073-00	RES-CHIP	10K	5%	1/10W
R014	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R015	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R016	1-216-033-00	RES-CHIP	220	5%	1/10W
R017	1-216-033-00	RES-CHIP	220	5%	1/10W
R018	1-216-033-00	RES-CHIP	220	5%	1/10W
R019	1-216-033-00	RES-CHIP	220	5%	1/10W
R020	1-216-033-00	RES-CHIP	220	5%	1/10W
R021	1-216-033-00	RES-CHIP	220	5%	1/10W
R022	1-216-033-00	RES-CHIP	220	5%	1/10W
R023	1-216-049-91	RES-CHIP	1K	5%	1/10W
R024	1-216-025-91	RES-CHIP	100	5%	1/10W
R025	1-216-025-91	RES-CHIP	100	5%	1/10W
R026	1-216-025-91	RES-CHIP	100	5%	1/10W
R027	1-216-025-91	RES-CHIP	100	5%	1/10W
R028	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R029	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R030	1-216-033-00	RES-CHIP	220	5%	1/10W
R031	1-216-037-00	RES-CHIP	330	5%	1/10W
R032	1-216-033-00	RES-CHIP	220	5%	1/10W
R033	1-216-033-00	RES-CHIP	220	5%	1/10W
R034	1-216-033-00	RES-CHIP	220	5%	1/10W
R035	1-216-033-00	RES-CHIP	220	5%	1/10W
R037	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R040	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R041	1-216-033-00	RES-CHIP	220	5%	1/10W
R042	1-216-033-00	RES-CHIP	220	5%	1/10W
R043	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R044	1-216-121-91	RES-CHIP	1M	5%	1/10W
R045	1-216-097-91	RES-CHIP	100K	5%	1/10W
R046	1-216-073-00	RES-CHIP	10K	5%	1/10W
R047	1-216-073-00	RES-CHIP	10K	5%	1/10W
R048	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R049	1-216-049-91	RES-CHIP	1K	5%	1/10W
R050	1-216-049-91	RES-CHIP	1K	5%	1/10W
R051	1-216-049-91	RES-CHIP	1K	5%	1/10W
R052	1-216-049-91	RES-CHIP	1K	5%	1/10W
R053	1-216-049-91	RES-CHIP	1K	5%	1/10W
R054	1-216-033-00	RES-CHIP	220	5%	1/10W
R055	1-216-033-00	RES-CHIP	220	5%	1/10W
R056	1-216-049-91	RES-CHIP	1K	5%	1/10W
R057	1-216-049-91	RES-CHIP	1K	5%	1/10W
R058	1-216-089-91	RES-CHIP	47K	5%	1/10W
R059	1-216-089-91	RES-CHIP	47K	5%	1/10W
R060	1-216-049-91	RES-CHIP	1K	5%	1/10W
R061	1-216-041-00	RES-CHIP	470	5%	1/10W
R062	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R063	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R064	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R066	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R068	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R070	1-216-033-00	RES-CHIP	220	5%	1/10W
R071	1-216-033-00	RES-CHIP	220	5%	1/10W
R072	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R073	1-216-295-91	SHORT	0		
R074	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R075	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R077	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R078	1-216-025-91	RES-CHIP	100	5%	1/10W
R079	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R084	1-216-025-91	RES-CHIP	100	5%	1/10W
R085	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R086	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R087	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R088	1-216-025-91	RES-CHIP	100	5%	1/10W
R089	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R090	1-216-113-00	RES-CHIP	470K	5%	1/10W
R091	1-216-017-91	RES-CHIP	47	5%	1/10W
R092	1-216-113-00	RES-CHIP	470K	5%	1/10W
R093	1-216-017-91	RES-CHIP	47	5%	1/10W
R094	1-216-113-00	RES-CHIP	470K	5%	1/10W
R095	1-216-017-91	RES-CHIP	47	5%	1/10W
R096	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R097	1-216-055-00	RES-CHIP	1.8K	5%	1/10W
R099	1-216-041-00	RES-CHIP	470	5%	1/10W
R100	1-216-041-00	RES-CHIP	470	5%	1/10W
R101	1-216-041-00	RES-CHIP	470	5%	1/10W
R102	1-216-113-00	RES-CHIP	470K	5%	1/10W
R103	1-216-113-00	RES-CHIP	470K	5%	1/10W
R104	1-216-113-00	RES-CHIP	470K	5%	1/10W
R105	1-216-017-91	RES-CHIP	47	5%	1/10W
R106	1-216-017-91	RES-CHIP	47	5%	1/10W
R107	1-216-017-91	RES-CHIP	47	5%	1/10W
R108	1-216-113-00	RES-CHIP	470K	5%	1/10W
R109	1-216-113-00	RES-CHIP	470K	5%	1/10W
R110	1-216-043-91	RES-CHIP	560	5%	1/10W
R111	1-216-043-91	RES-CHIP	560	5%	1/10W
R112	1-216-043-91	RES-CHIP	560	5%	1/10W
R113	1-216-113-00	RES-CHIP	470K	5%	1/10W
R114	1-216-045-00	RES-CHIP	680	5%	1/10W
R115	1-216-045-00	RES-CHIP	680	5%	1/10W
R116	1-216-045-00	RES-CHIP	680	5%	1/10W
R117	1-216-295-91	SHORT	0		
R118	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R119	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R120	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R121	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R122	1-216-295-91	SHORT	0		
R123	1-216-017-91	RES-CHIP	47	5%	1/10W
R124	1-216-017-91	RES-CHIP	47	5%	1/10W
R125	1-216-017-91	RES-CHIP	47	5%	1/10W
R127	1-216-025-91	RES-CHIP	100	5%	1/10W
R128	1-216-025-91	RES-CHIP	100	5%	1/10W
R129	1-216-073-00	RES-CHIP	10K	5%	1/10W
R130	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R131	1-216-073-00	RES-CHIP	10K	5%	1/10W
R132	1-216-295-91	SHORT	0		
R135	1-216-295-91	SHORT	0		
R151	1-216-025-91	RES-CHIP	100	5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R152	1-216-083-00	RES-CHIP	27K	5%	1/10W
R153	1-216-689-11	RES-CHIP	39K	5%	1/10W
R154	1-216-043-91	RES-CHIP	560	5%	1/10W
R155	1-216-025-91	RES-CHIP	100	5%	1/10W
R156	1-216-045-00	RES-CHIP	680	5%	1/10W
R157	1-216-049-91	RES-CHIP	1K	5%	1/10W
R158	1-216-464-11	METAL OXIDE	18K	5%	2W
R159	1-216-041-00	RES-CHIP	470	5%	1/10W
R160	1-216-025-91	RES-CHIP	100	5%	1/10W
R161	1-216-083-00	RES-CHIP	27K	5%	1/10W
R162	1-216-041-00	RES-CHIP	470	5%	1/10W
R163	1-216-689-11	RES-CHIP	39K	5%	1/10W
R164	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R166	1-216-025-91	RES-CHIP	100	5%	1/10W
R167	1-216-025-91	RES-CHIP	100	5%	1/10W
R168	1-216-025-91	RES-CHIP	100	5%	1/10W
R169	1-208-789-11	METAL CHIP	2K	0.5%	1/10W
R170	1-216-025-91	RES-CHIP	100	5%	1/10W
R171	1-216-295-91	SHORT	0		
R203	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R204	1-216-041-00	RES-CHIP	470	5%	1/10W
R207	1-216-041-00	RES-CHIP	470	5%	1/10W
R208	1-216-295-91	SHORT	0		
R274	1-216-073-00	RES-CHIP	10K	5%	1/10W
R275	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R276	1-216-097-91	RES-CHIP	100K	5%	1/10W
R277	1-216-089-91	RES-CHIP	47K	5%	1/10W
R278	1-216-073-00	RES-CHIP	10K	5%	1/10W
R279	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R280	1-216-073-00	RES-CHIP	10K	5%	1/10W
R281	1-216-025-91	RES-CHIP	100	5%	1/10W
R282	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R283	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R284	1-216-025-91	RES-CHIP	100	5%	1/10W
R285	1-216-049-91	RES-CHIP	1K	5%	1/10W
R286	1-216-025-91	RES-CHIP	100	5%	1/10W
R287	1-216-025-91	RES-CHIP	100	5%	1/10W
R288	1-216-295-91	SHORT	0		
R289	1-216-049-91	RES-CHIP	1K	5%	1/10W
R290	1-216-049-91	RES-CHIP	1K	5%	1/10W
R291	1-216-049-91	RES-CHIP	1K	5%	1/10W
R292	1-216-049-91	RES-CHIP	1K	5%	1/10W
R293	1-216-049-91	RES-CHIP	1K	5%	1/10W
R294	1-216-049-91	RES-CHIP	1K	5%	1/10W
R295	1-216-295-91	SHORT	0		
R296	1-216-033-00	RES-CHIP	220	5%	1/10W
R297	1-216-033-00	RES-CHIP	220	5%	1/10W
R298	1-216-033-00	RES-CHIP	220	5%	1/10W
R299	1-216-033-00	RES-CHIP	220	5%	1/10W
R300	1-216-033-00	RES-CHIP	220	5%	1/10W
R301	1-216-033-00	RES-CHIP	220	5%	1/10W
R302	1-216-049-91	RES-CHIP	1K	5%	1/10W
R303	1-216-133-00	RES-CHIP	3.3M	5%	1/10W
R304	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R305	1-216-066-00	RES-CHIP	5.1K	5%	1/10W
R306	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R307	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R308	1-216-109-00	RES-CHIP	330K	5%	1/10W
R309	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R310	1-216-033-00	RES-CHIP	220	5%	1/10W
R311	1-216-025-91	RES-CHIP	100	5%	1/10W
R312	1-216-025-91	RES-CHIP	100	5%	1/10W
R313	1-216-113-00	RES-CHIP	470K	5%	1/10W
R314	1-216-025-91	RES-CHIP	100	5%	1/10W
R315	1-216-043-91	RES-CHIP	560	5%	1/10W
R316	1-216-049-91	RES-CHIP	1K	5%	1/10W
R317	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R318	1-216-077-91	RES-CHIP	15K	5%	1/10W
R319	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R320	1-216-073-00	RES-CHIP	10K	5%	1/10W
R321	1-216-033-00	RES-CHIP	220	5%	1/10W
R322	1-216-073-00	RES-CHIP	10K	5%	1/10W
R323	1-216-017-91	RES-CHIP	47	5%	1/10W
R324	1-216-049-91	RES-CHIP	1K	5%	1/10W
R325	1-216-073-00	RES-CHIP	10K	5%	1/10W
R326	1-216-073-00	RES-CHIP	10K	5%	1/10W
R327	1-216-073-00	RES-CHIP	10K	5%	1/10W
R328	1-216-049-91	RES-CHIP	1K	5%	1/10W
R329	1-216-073-00	RES-CHIP	10K	5%	1/10W
R330	1-216-073-00	RES-CHIP	10K	5%	1/10W
R331	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R332	1-216-073-00	RES-CHIP	10K	5%	1/10W
R333	1-216-049-91	RES-CHIP	1K	5%	1/10W
R334	1-216-113-00	RES-CHIP	470K	5%	1/10W
R335	1-216-041-00	RES-CHIP	470	5%	1/10W
R336	1-216-049-91	RES-CHIP	1K	5%	1/10W
R337	1-216-049-91	RES-CHIP	1K	5%	1/10W
R338	1-216-077-91	RES-CHIP	15K	5%	1/10W
R339	1-216-049-91	RES-CHIP	1K	5%	1/10W
R340	1-216-041-00	RES-CHIP	470	5%	1/10W
R341	1-216-041-00	RES-CHIP	470	5%	1/10W
R342	1-216-049-91	RES-CHIP	1K	5%	1/10W
R343	1-216-081-00	RES-CHIP	22K	5%	1/10W
R344	1-216-025-91	RES-CHIP	100	5%	1/10W
R345	1-216-049-91	RES-CHIP	1K	5%	1/10W
R346	1-216-089-91	RES-CHIP	47K	5%	1/10W
R347	1-216-073-00	RES-CHIP	10K	5%	1/10W
R348	1-216-079-00	RES-CHIP	18K	5%	1/10W
R349	1-216-077-91	RES-CHIP	15K	5%	1/10W
R350	1-216-073-00	RES-CHIP	10K	5%	1/10W
R351	1-216-041-00	RES-CHIP	470	5%	1/10W
R352	1-216-081-00	RES-CHIP	22K	5%	1/10W
R353	1-216-113-00	RES-CHIP	470K	5%	1/10W
R354	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R355	1-216-073-00	RES-CHIP	10K	5%	1/10W
R356	1-216-063-91	RES-CHIP	3.9K	5%	1/10W
R357	1-216-049-91	RES-CHIP	1K	5%	1/10W
R360	1-216-051-00	RES-CHIP	1.2K	5%	1/10W
R361	1-208-803-11	METAL CHIP	7.5K	0.5%	1/10W
R362	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R363	1-208-798-11	METAL CHIP	4.7K	0.5%	1/10W
R411	1-216-025-91	RES-CHIP	100	5%	1/10W
R412	1-216-025-91	RES-CHIP	100	5%	1/10W
R413	1-216-025-91	RES-CHIP	100	5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R414	1-216-081-00	RES-CHIP	22K	5%	1/10W
R415	1-216-073-00	RES-CHIP	10K	5%	1/10W
R418	1-216-025-91	RES-CHIP	100	5%	1/10W
R419	1-216-025-91	RES-CHIP	100	5%	1/10W
R420	1-216-025-91	RES-CHIP	100	5%	1/10W
R421	1-216-025-91	RES-CHIP	100	5%	1/10W
R422	1-216-025-91	RES-CHIP	100	5%	1/10W
R423	1-216-089-91	RES-CHIP	47K	5%	1/10W
R425	1-216-025-91	RES-CHIP	100	5%	1/10W
R426	1-216-073-00	RES-CHIP	10K	5%	1/10W
R428	1-216-073-00	RES-CHIP	10K	5%	1/10W
R429	1-216-073-00	RES-CHIP	10K	5%	1/10W
R430	1-216-041-00	RES-CHIP	470	5%	1/10W
R431	1-216-073-00	RES-CHIP	10K	5%	1/10W
R432	1-216-041-00	RES-CHIP	470	5%	1/10W
R433	1-216-041-00	RES-CHIP	470	5%	1/10W
R434	1-216-097-91	RES-CHIP	100K	5%	1/10W
R435	1-216-073-00	RES-CHIP	10K	5%	1/10W
R436	1-216-079-00	RES-CHIP	18K	5%	1/10W
R437	1-216-046-00	RES-CHIP	750	5%	1/10W
R438	1-216-073-00	RES-CHIP	10K	5%	1/10W
R440	1-216-046-00	RES-CHIP	750	5%	1/10W
R441	1-216-049-91	RES-CHIP	1K	5%	1/10W
R442	1-216-041-00	RES-CHIP	470	5%	1/10W
R443	1-216-073-00	RES-CHIP	10K	5%	1/10W
R444	1-216-077-91	RES-CHIP	15K	5%	1/10W
R445	1-216-079-00	RES-CHIP	18K	5%	1/10W
R446	1-216-085-00	RES-CHIP	33K	5%	1/10W
R447	1-215-451-00	METAL	18K	1%	1/4W
R448	1-215-451-00	METAL	18K	1%	1/4W
R449	1-216-049-91	RES-CHIP	1K	5%	1/10W
R451	1-216-073-00	RES-CHIP	10K	5%	1/10W
R452	1-216-083-00	RES-CHIP	27K	5%	1/10W
R455	1-216-083-00	RES-CHIP	27K	5%	1/10W
R458	1-249-389-11	CARBON	4.7	5%	1/4W
R459	1-249-389-11	CARBON	4.7	5%	1/4W
R460	1-216-089-91	RES-CHIP	47K	5%	1/10W
R461	1-216-025-11	RES-CHIP	100	5%	1/10W
R462	1-216-075-00	RES-CHIP	12K	5%	1/10W
R463	1-216-089-91	RES-CHIP	47K	5%	1/10W
R464	1-216-089-91	RES-CHIP	47K	5%	1/10W
R465	1-216-121-91	RES-CHIP	1M	5%	1/10W
R466	1-216-079-00	RES-CHIP	18K	5%	1/10W
R467	1-216-077-91	RES-CHIP	15K	5%	1/10W
R468	1-216-295-91	SHORT	0		
R474	1-216-049-91	RES-CHIP	1K	5%	1/10W
R801	1-500-245-11	FERRITE	0µH		
R802	1-500-245-11	FERRITE	0µH		
R803	1-500-245-11	FERRITE	0µH		
R804	1-500-245-11	FERRITE	0µH		
R805	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R806	1-216-113-00	RES-CHIP	470K	5%	1/10W
R808	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R810	1-216-295-91	SHORT	0		
R811	1-216-109-00	RES-CHIP	330K	5%	1/10W
R813	1-216-117-00	RES-CHIP	680K	5%	1/10W
R814	1-216-117-00	RES-CHIP	680K	5%	1/10W
R815	1-216-025-91	RES-CHIP	100	5%	1/10W
R816	1-216-049-91	RES-CHIP	1K	5%	1/10W
R817	1-216-025-91	RES-CHIP	100	5%	1/10W
R818	1-216-025-91	RES-CHIP	100	5%	1/10W
R819	1-216-025-91	RES-CHIP	100	5%	1/10W
R820	1-216-295-91	SHORT	0		
R821	1-216-295-91	SHORT	0		
R822	1-216-295-91	SHORT	0		
R823	1-216-295-91	SHORT	0		
R824	1-216-025-91	RES-CHIP	100	5%	1/10W
R825	1-216-025-91	RES-CHIP	100	5%	1/10W
R828	1-216-049-91	RES-CHIP	1K	5%	1/10W
R829	1-216-073-00	RES-CHIP	10K	5%	1/10W
R830	1-216-041-00	RES-CHIP	470	5%	1/10W
R831	1-216-049-91	RES-CHIP	1K	5%	1/10W
R832	1-216-073-00	RES-CHIP	10K	5%	1/10W
R833	1-216-049-91	RES-CHIP	1K	5%	1/10W
R834	1-216-049-91	RES-CHIP	1K	5%	1/10W
R836	1-216-049-91	RES-CHIP	1K	5%	1/10W
R838	1-216-025-91	RES-CHIP	100	5%	1/10W
R839	1-216-025-91	RES-CHIP	100	5%	1/10W
R840	1-216-025-91	RES-CHIP	100	5%	1/10W
R842	1-216-025-91	RES-CHIP	100	5%	1/10W
R843	1-216-025-91	RES-CHIP	100	5%	1/10W
R844	1-216-025-91	RES-CHIP	100	5%	1/10W
R846	1-216-025-91	RES-CHIP	100	5%	1/10W
R847	1-216-033-00	RES-CHIP	220	5%	1/10W
R848	1-216-025-91	RES-CHIP	100	5%	1/10W
R849	1-216-041-00	RES-CHIP	470	5%	1/10W
R850	1-216-041-00	RES-CHIP	470	5%	1/10W
R851	1-216-041-00	RES-CHIP	470	5%	1/10W
R852	1-208-814-91	METAL CHIP	22K	0.5%	1/10W
R853	1-216-025-91	RES-CHIP	100	5%	1/10W
R854	1-216-025-91	RES-CHIP	100	5%	1/10W
R855	1-216-025-91	RES-CHIP	100	5%	1/10W
R856	1-216-033-00	RES-CHIP	220	5%	1/10W
R857	1-216-025-91	RES-CHIP	100	5%	1/10W
R858	1-216-073-00	RES-CHIP	10K	5%	1/10W
R859	1-216-081-00	RES-CHIP	22K	5%	1/10W
R860	1-216-025-91	RES-CHIP	100	5%	1/10W
R861	1-216-073-00	RES-CHIP	10K	5%	1/10W
R862	1-216-073-00	RES-CHIP	10K	5%	1/10W
R863	1-216-025-91	RES-CHIP	100	5%	1/10W
R864	1-208-801-11	METAL CHIP	6.2K	0.5%	1/10W
R865	1-216-025-91	RES-CHIP	100	5%	1/10W
R866	1-216-025-91	RES-CHIP	100	5%	1/10W
R867	1-216-025-91	RES-CHIP	100	5%	1/10W
R868	1-216-025-91	RES-CHIP	100	5%	1/10W
R869	1-216-025-91	RES-CHIP	100	5%	1/10W
R870	1-216-073-00	RES-CHIP	10K	5%	1/10W
R871	1-216-025-91	RES-CHIP	100	5%	1/10W
R872	1-216-025-91	RES-CHIP	100	5%	1/10W
R873	1-216-025-91	RES-CHIP	100	5%	1/10W
R874	1-216-025-91	RES-CHIP	100	5%	1/10W
R875	1-216-295-91	SHORT	0		
R876	1-216-065-91	RES-CHIP	4.7K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R877	1-208-816-11	METAL CHIP	27K	0.5%	1/10W
R878	1-216-049-91	RES-CHIP	1K	5%	1/10W
R879	1-216-295-91	SHORT	0		
R880	1-216-049-91	RES-CHIP	1K	5%	1/10W
R881	1-216-025-91	RES-CHIP	100	5%	1/10W
R882	1-216-033-00	RES-CHIP	220	5%	1/10W
R883	1-216-033-00	RES-CHIP	220	5%	1/10W
R884	1-216-049-91	RES-CHIP	1K	5%	1/10W
R885	1-216-025-91	RES-CHIP	100	5%	1/10W
R887	1-414-551-11	FERRITE	0µH		
R888	1-216-025-91	RES-CHIP	100	5%	1/10W
R891	1-216-073-00	RES-CHIP	10K	5%	1/10W
R892	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R893	1-216-073-00	RES-CHIP	10K	5%	1/10W
R894	1-216-033-00	RES-CHIP	220	5%	1/10W
R895	1-216-025-91	RES-CHIP	100	5%	1/10W
R896	1-216-121-91	RES-CHIP	1M	5%	1/10W
R897	1-216-049-91	RES-CHIP	1K	5%	1/10W
R898	1-216-049-91	RES-CHIP	1K	5%	1/10W
R899	1-216-033-00	RES-CHIP	220	5%	1/10W
R900	1-216-025-91	RES-CHIP	100	5%	1/10W
R901	1-216-033-00	RES-CHIP	220	5%	1/10W
R902	1-216-033-00	RES-CHIP	220	5%	1/10W
R903	1-216-025-91	RES-CHIP	100	5%	1/10W
R904	1-216-033-00	RES-CHIP	220	5%	1/10W
R905	1-216-025-91	RES-CHIP	100	5%	1/10W
R906	1-216-025-91	RES-CHIP	100	5%	1/10W
R907	1-216-025-91	RES-CHIP	100	5%	1/10W
R908	1-216-025-91	RES-CHIP	100	5%	1/10W
R910	1-216-025-91	RES-CHIP	100	5%	1/10W
R911	1-216-025-91	RES-CHIP	100	5%	1/10W
R912	1-216-049-91	RES-CHIP	1K	5%	1/10W
R913	1-216-025-91	RES-CHIP	100	5%	1/10W
R914	1-216-049-91	RES-CHIP	1K	5%	1/10W
R915	1-216-049-91	RES-CHIP	1K	5%	1/10W
R916	1-216-049-91	RES-CHIP	1K	5%	1/10W
R917	1-216-025-91	RES-CHIP	100	5%	1/10W
R918	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R919	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R920	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R922	1-216-049-91	RES-CHIP	1K	5%	1/10W
R923	1-216-043-91	RES-CHIP	560	5%	1/10W
R924	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R925	1-216-043-91	RES-CHIP	560	5%	1/10W
R926	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R928	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R929	1-216-049-91	RES-CHIP	1K	5%	1/10W
R932	1-208-792-11	METAL CHIP	2.7K	0.5%	1/10W
R935	1-216-025-91	RES-CHIP	100	5%	1/10W
R936	1-216-025-91	RES-CHIP	100	5%	1/10W
R937	1-216-025-91	RES-CHIP	100	5%	1/10W
R938	1-208-766-11	METAL CHIP	220	0.5%	1/10W
R939	1-208-766-11	METAL CHIP	220	0.5%	1/10W
R941	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R942	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R943	1-216-041-00	RES-CHIP	470	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R945	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R950	1-216-043-91	RES-CHIP	560	5%	1/10W
R951	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R952	1-216-049-91	RES-CHIP	1K	5%	1/10W
R953	1-216-025-91	RES-CHIP	100	5%	1/10W
R954	1-216-025-91	RES-CHIP	100	5%	1/10W
R955	1-216-025-91	RES-CHIP	100	5%	1/10W
R956	1-216-025-91	RES-CHIP	100	5%	1/10W
R957	1-216-025-91	RES-CHIP	100	5%	1/10W
R958	1-216-025-91	RES-CHIP	100	5%	1/10W
R959	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R960	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R961	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R962	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R963	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R964	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R965	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R966	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R968	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R970	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R972	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R974	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R976	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R978	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R979	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R980	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R981	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R982	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R983	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R985	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R987	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R989	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R991	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R993	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R994	1-208-817-11	METAL CHIP	30K	0.5%	1/10W
R996	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R997	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R998	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R999	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R1000	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R1001	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R1002	1-208-810-11	METAL CHIP	15K	0.5%	1/10W
R1003	1-208-818-11	METAL CHIP	33K	0.5%	1/10W
R1010	1-216-295-91	SHORT	0		
R1011	1-216-295-91	SHORT	0		
R1012	1-216-295-91	SHORT	0		
R1013	1-216-295-91	SHORT	0		
R1014	1-216-295-91	SHORT	0		
R1015	1-216-295-91	SHORT	0		
R1101	1-216-041-00	RES-CHIP	470	5%	1/10W
R1102	1-216-041-00	RES-CHIP	470	5%	1/10W
R1103	1-216-022-00	RES-CHIP	75	5%	1/10W
R1106	1-216-041-00	RES-CHIP	470	5%	1/10W
R1107	1-216-041-00	RES-CHIP	470	5%	1/10W
R1108	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1109	1-216-113-00	RES-CHIP	470K	5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R1110	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1111	1-216-025-91	RES-CHIP	100	5%	1/10W
R1112	1-216-022-00	RES-CHIP	75	5%	1/10W
R1113	1-216-022-00	RES-CHIP	75	5%	1/10W
R1114	1-216-022-00	RES-CHIP	75	5%	1/10W
R1115	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1116	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1117	1-216-022-00	RES-CHIP	75	5%	1/10W
R1118	1-216-022-00	RES-CHIP	75	5%	1/10W
R1119	1-216-022-00	RES-CHIP	75	5%	1/10W
R1120	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1121	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1122	1-216-022-00	RES-CHIP	75	5%	1/10W
R1123	1-216-022-00	RES-CHIP	75	5%	1/10W
R1124	1-216-022-00	RES-CHIP	75	5%	1/10W
R1126	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1127	1-216-113-00	RES-CHIP	470K	5%	1/10W
R1128	1-216-019-00	RES-CHIP	56	5%	1/10W
R1129	1-216-017-91	RES-CHIP	47	5%	1/10W
R1130	1-216-025-91	RES-CHIP	100	5%	1/10W
R1131	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1132	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1135	1-216-041-00	RES-CHIP	470	5%	1/10W
R1136	1-216-041-00	RES-CHIP	470	5%	1/10W
R1137	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1138	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1139	1-216-041-00	RES-CHIP	470	5%	1/10W
R1140	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1141	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1142	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1143	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1144	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1147	1-216-041-00	RES-CHIP	470	5%	1/10W
R1148	1-216-041-00	RES-CHIP	470	5%	1/10W
R1150	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1151	1-216-105-91	RES-CHIP	220K	5%	1/10W
R1156	1-216-025-91	RES-CHIP	100	5%	1/10W
R1157	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1158	1-216-025-91	RES-CHIP	100	5%	1/10W
R1159	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1160	1-216-025-91	RES-CHIP	100	5%	1/10W
R1161	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1162	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1163	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1164	1-216-093-91	RES-CHIP	68K	5%	1/10W
R1165	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1166	1-216-097-91	RES-CHIP	100K	5%	1/10W
R1167	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1168	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1169	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1170	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1171	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1172	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1173	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1174	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R1175	1-208-774-11	METAL CHIP	470	0.5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R1180	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1182	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1183	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R1184	1-208-766-11	METAL CHIP	220	0.5%	1/10W
R1187	1-216-025-91	RES-CHIP	100	5%	1/10W
R1188	1-216-025-91	RES-CHIP	100	5%	1/10W
R1191	1-216-025-91	RES-CHIP	100	5%	1/10W
R1193	1-216-041-00	RES-CHIP	470	5%	1/10W
R1197	1-216-041-00	RES-CHIP	470	5%	1/10W
R1202	1-216-025-91	RES-CHIP	100	5%	1/10W
R1203	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1204	1-216-025-91	RES-CHIP	100	5%	1/10W
R1205	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1206	1-216-025-91	RES-CHIP	100	5%	1/10W
R1207	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1208	1-216-025-91	RES-CHIP	100	5%	1/10W
R1209	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1210	1-216-025-91	RES-CHIP	100	5%	1/10W
R1211	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1212	1-216-025-91	RES-CHIP	100	5%	1/10W
R1213	1-216-025-91	RES-CHIP	100	5%	1/10W
R1214	1-216-025-91	RES-CHIP	100	5%	1/10W
R1215	1-216-025-91	RES-CHIP	100	5%	1/10W
R1216	1-216-025-91	RES-CHIP	100	5%	1/10W
R1217	1-216-025-91	RES-CHIP	100	5%	1/10W
R1218	1-216-025-91	RES-CHIP	100	5%	1/10W
R1221	1-216-025-91	RES-CHIP	100	5%	1/10W
R1222	1-216-295-91	SHORT	0		
R1223	1-216-025-91	RES-CHIP	100	5%	1/10W
R1601	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1603	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1604	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1605	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R1607	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R1609	1-216-025-91	RES-CHIP	100	5%	1/10W
R1610	1-216-025-91	RES-CHIP	100	5%	1/10W
R1614	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1615	1-208-802-11	METAL CHIP	6.8K	0.5%	1/10W
R1616	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1617	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1618	1-216-033-00	RES-CHIP	220	5%	1/10W
R1619	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1621	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R1622	1-216-033-00	RES-CHIP	220	5%	1/10W
R1623	1-216-025-91	RES-CHIP	100	5%	1/10W
R1624	1-216-025-91	RES-CHIP	100	5%	1/10W
R1627	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R1701	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R1702	1-216-047-91	RES-CHIP	820	5%	1/10W
R1703	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R1704	1-216-114-00	RES-CHIP	510K	5%	1/10W
R1706	1-216-469-11	METAL OXIDE	12	5%	3W
R1707	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1708	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R1711	1-216-295-91	SHORT	0		
R1712	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R1714	1-208-808-11	METAL CHIP	12K	0.5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R1715	1-216-295-91	SHORT	0		
R1717	1-216-295-91	SHORT	0		
R1720	1-208-804-11	METAL CHIP	8.2K	0.5%	1/10W
R1721	1-208-757-11	METAL CHIP	91	0.5%	1/10W
R1722	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R1724	1-216-041-00	RES-CHIP	470	5%	1/10W
R1725	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1726	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1727	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R1728	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R1729	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R1730	1-208-800-11	METAL CHIP	5.6K	0.5%	1/10W
R1736	1-216-041-00	RES-CHIP	470	5%	1/10W
R1738	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R1739	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1741	1-216-041-00	RES-CHIP	470	5%	1/10W
R1742	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1743	1-208-768-11	METAL CHIP	240	0.5%	1/10W
R1745	1-208-772-11	METAL CHIP	390	0.5%	1/10W
R1746	1-216-025-91	RES-CHIP	100	5%	1/10W
R1747	1-216-025-91	RES-CHIP	100	5%	1/10W
R1901	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1902	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1903	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1904	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1905	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1906	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1907	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1908	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1909	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1910	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R1911	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1912	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1913	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1914	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1915	1-216-033-00	RES-CHIP	220	5%	1/10W
R1916	1-216-045-00	RES-CHIP	680	5%	1/10W
R1917	1-216-061-00	RES-CHIP	3.3K	5%	1/10W
R1918	1-216-025-91	RES-CHIP	100	5%	1/10W
R1919	1-216-025-91	RES-CHIP	100	5%	1/10W
R1920	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1921	1-216-109-00	RES-CHIP	330K	5%	1/10W
R1923	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1924	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1925	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1926	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R1927	1-216-025-91	RES-CHIP	100	5%	1/10W
R1928	1-216-025-91	RES-CHIP	100	5%	1/10W
R1929	1-208-801-11	METAL CHIP	6.2K	0.5%	1/10W
R1930	1-216-295-91	SHORT	0		
R1931	1-216-071-00	RES-CHIP	8.2K	5%	1/10W
R1932	1-216-077-91	RES-CHIP	15K	5%	1/10W
R1933	1-216-025-91	RES-CHIP	100	5%	1/10W
R1934	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1935	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1936	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R1937	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1938	1-216-025-91	RES-CHIP	100	5%	1/10W
R1939	1-216-025-91	RES-CHIP	100	5%	1/10W
R1940	1-216-025-91	RES-CHIP	100	5%	1/10W
R1941	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1942	1-216-025-91	RES-CHIP	100	5%	1/10W
R1943	1-216-053-00	RES-CHIP	1.5K	5%	1/10W
R1944	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1945	1-216-025-91	RES-CHIP	100	5%	1/10W
R1947	1-216-295-91	SHORT	0		
R1948	1-216-025-91	RES-CHIP	100	5%	1/10W
R1949	1-216-025-91	RES-CHIP	100	5%	1/10W
R1950	1-216-025-91	RES-CHIP	100	5%	1/10W
R1951	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1952	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1953	1-216-025-91	RES-CHIP	100	5%	1/10W
R1954	1-216-025-91	RES-CHIP	100	5%	1/10W
R1955	1-216-089-91	RES-CHIP	47K	5%	1/10W
R1956	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R1957	1-216-041-00	RES-CHIP	470	5%	1/10W
R1958	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1959	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1960	1-208-778-11	METAL CHIP	680	0.5%	1/10W
R1961	1-208-778-11	METAL CHIP	680	0.5%	1/10W
R1962	1-208-778-11	METAL CHIP	680	0.5%	1/10W
R1963	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R1964	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1965	1-216-025-91	RES-CHIP	100	5%	1/10W
R1966	1-216-041-00	RES-CHIP	470	5%	1/10W
R1967	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1968	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1969	1-208-774-11	METAL CHIP	470	0.5%	1/10W
R1970	1-208-780-11	METAL CHIP	820	0.5%	1/10W
R1972	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1974	1-216-097-91	RES-CHIP	100K	5%	1/10W
R1975	1-216-041-00	RES-CHIP	470	5%	1/10W
R1976	1-208-776-11	METAL CHIP	560	0.5%	1/10W
R1977	1-216-075-00	RES-CHIP	12K	5%	1/10W
R1978	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1979	1-216-033-00	RES-CHIP	220	5%	1/10W
R1980	1-216-033-00	RES-CHIP	220	5%	1/10W
R1981	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1982	1-216-097-91	RES-CHIP	100K	5%	1/10W
R1983	1-208-794-11	METAL CHIP	3.3K	0.5%	1/10W

<TUNER>

TU151	8-598-475-01	TUNER, FSS BTF-WL411 (XR432K90)
TU151	8-598-477-20	TUNER, FSS BTF-WG411 (XR432N90)
TU152	8-598-430-00	TUNER, FSS BTF-FA401

<CRYSTAL>

X001	1-781-589-21	VIBRATOR, CRYSTAL 16MHz
X202	1-567-505-11	OSCILLATOR, CRYSTAL 3.58MHz
X203	1-579-583-11	VIBRATOR, CERAMIC 503.5kHz
X801	1-767-925-21	VIBRATOR, CRYSTAL 12MHz
X1901	1-579-583-11	VIBRATOR, CERAMIC 503.5kHz

A G

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- The components identified by ⋈ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF. NO.	PART NO.	DESCRIPTION			REMARK
X1902	1-567-505-11	OSCILLATOR, CRYSTAL 3.58MHz			
X1903	1-760-095-21	VIBRATOR, CRYSTAL 20.48MHz			
**********					
	* A-1316-535-A	G BOARD, COMPLETE			
		**********			
	* 4-077-126-01	SHIELD, TRANSFORMER			
	4-382-854-11	SCREW(M3X10), P, SW (+)			
	7-682-952-09	SCREW+PSW 3X16			
		<CAPACITOR>			
C501	1-126-959-11	ELECT	0.47µF	20%	50V
C502	1-102-002-00	CERAMIC	680pF	10%	500V
C505	1-106-383-00	MYLAR	0.047µF	10%	200V
C506	1-102-212-00	CERAMIC	820pF	10%	500V
C508	1-102-002-00	CERAMIC	680pF	10%	500V
C510	1-130-471-00	MYLAR	0.001µF	5%	50V
C513	1-126-933-11	ELECT	100µF	20%	16V
C514	1-130-495-00	MYLAR	0.1µF	5%	50V
C515	1-126-960-11	ELECT	1µF	20%	50V
C516	1-126-965-11	ELECT	22µF	20%	50V
⋈ C517	⚠	CERAMIC			2KV
C518	1-130-487-00	MYLAR	0.022µF	5%	50V
C521	⚠ 1-128-660-91	FILM	0.039µF	3%	630V
C522	⚠ 1-117-658-11	FILM	14000pF	3%	1.2KV
C525	1-136-479-11	FILM	0.001µF	5%	50V
C526	1-130-475-00	MYLAR	0.0022µF	5%	50V
C527	1-129-702-00	FILM	0.001µF	5%	630V
C529	1-130-495-00	MYLAR	0.1µF	5%	50V
C531	1-117-673-11	FILM	1.5µF	5%	250V
C533	1-106-359-00	MYLAR	0.0047µF	5%	100V
C534	1-162-116-00	CERAMIC	680pF	10%	2KV
C535	1-162-116-00	CERAMIC	680pF	10%	2KV
C536	1-126-965-11	ELECT	22µF	20%	50V
C537	1-102-244-00	CERAMIC	220pF	10%	500V
C538	1-106-359-00	MYLAR	0.0047µF	5%	100V
C540	1-107-645-11	ELECT	22µF	20%	160V
C542	1-102-228-00	CERAMIC	470pF	10%	500V
C543	1-117-813-11	FILM	0.75µF	5%	250V
C544	1-110-626-11	ELECT	330µF	20%	160V
C545	1-162-114-00	CERAMIC	0.0047µF		2KV
C546	1-107-649-11	ELECT	2.2µF	20%	250V
C547	1-126-971-11	ELECT	470µF	20%	50V
C548	1-104-665-11	ELECT	100µF	20%	25V
C549	1-130-489-00	MYLAR	0.033µF	5%	50V
C550	1-104-665-11	ELECT	100µF	20%	25V
C551	1-126-971-11	ELECT	470µF	20%	50V
C552	1-130-489-00	MYLAR	0.033µF	5%	50V
C553	1-126-935-11	ELECT	470µF	20%	16V
C554	1-126-935-11	ELECT	470µF	20%	16V
C555	1-104-665-11	ELECT	100µF	20%	25V
C556	1-104-665-11	ELECT	100µF	20%	25V
C557	1-128-562-11	ELECT	47µF	20%	100V
C563	1-126-947-11	ELECT	47µF	20%	25V
C564	1-102-129-00	CERAMIC	0.01µF	10%	50V
C565	1-102-129-00	CERAMIC	0.01µF	10%	50V
C566	1-104-666-11	ELECT	220µF	20%	25V
C567	1-106-387-00	MYLAR	0.068µF	5%	200V
C619	1-126-947-11	ELECT	47µF	20%	16V
C625	1-126-947-11	ELECT	47µF	20%	16V
C626	1-126-947-11	ELECT	47µF	20%	16V
C651	1-164-644-11	CERAMIC	330pF	10%	500V
C654	1-126-953-11	ELECT	2200µF	20%	35V
C655	1-126-953-11	ELECT	2200µF	20%	35V
C656	1-102-121-00	CERAMIC	0.0022µF	10%	50V
C657	1-126-768-11	ELECT	2200µF	20%	16V
C658	1-126-943-11	ELECT	2200µF	20%	25V
C659	1-126-943-11	ELECT	2200µF	20%	25V
C662	1-123-024-21	ELECT	33µF		160V
C663	1-104-665-11	ELECT	100µF	20%	25V
C665	1-126-934-11	ELECT	220µF	20%	10V
C666	1-126-927-11	ELECT	2200µF	20%	10V
C667	1-126-947-11	ELECT	47µF	20%	25V
C668	1-126-947-11	ELECT	47µF	20%	25V
C669	1-126-947-11	ELECT	47µF	20%	25V
C670	1-137-368-11	MYLAR	0.0047µF	5%	50V
C672	1-126-947-11	ELECT	47µF	20%	25V
C674	1-126-947-11	ELECT	47µF	20%	25V
C676	1-126-940-11	ELECT	330µF	20%	25V
C679	1-126-947-11	ELECT	47µF	20%	25V
C1501	1-130-495-00	MYLAR	0.1µF	5%	50V
C1502	1-126-941-11	ELECT	470µF	20%	25V
C1504	1-102-106-00	CERAMIC	100pF	10%	50V
C1505	1-126-947-11	ELECT	47µF	20%	25V
C1506	1-102-106-00	CERAMIC	100pF	10%	50V
C1507	1-126-942-61	ELECT	1000µF	20%	25V
C1508	1-102-121-00	CERAMIC	0.0022µF	10%	50V
C1510	1-126-941-11	ELECT	470µF	20%	25V
C1511	1-126-964-11	ELECT	10µF	20%	50V
C1512	1-126-933-11	ELECT	100µF	20%	16V
C1513	1-126-964-11	ELECT	10µF	20%	50V
C1516	1-104-665-11	ELECT	100µF	20%	25V
C1517	1-130-471-00	MYLAR	0.001µF	5%	50V
C1518	1-102-125-00	CERAMIC	0.0047µF	10%	50V
C1519	1-102-106-00	CERAMIC	100pF	10%	50V
C1520	1-126-933-11	ELECT	100µF	20%	16V
C1521	1-126-941-11	ELECT	470µF	20%	25V
C1522	1-126-941-11	ELECT	470µF	20%	25V
C1523	1-126-964-11	ELECT	10µF	20%	50V
C1524	1-102-106-00	CERAMIC	100pF	10%	50V
C1525	1-102-852-91	CERAMIC	47pF	5%	50V
C1526	1-136-177-00	MYLAR	1µF	5%	50V
C1527	1-102-125-00	CERAMIC	0.0047µF	10%	50V
C1528	1-126-941-11	ELECT	470µF	20%	25V
C1530	1-102-106-00	CERAMIC	100pF	10%	50V
C1531	1-102-106-00	CERAMIC	100pF	10%	50V
C1533	1-126-941-11	ELECT	470µF	20%	25V
C1534	1-102-125-00	CERAMIC	0.0047µF	10%	50V
C1536	1-102-106-00	CERAMIC	100pF	10%	50V
C1537	1-102-125-00	CERAMIC	0.0047µF	10%	50V
C1538	1-126-941-11	ELECT	470µF	20%	25V

G

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION			REMARK
C1539	1-104-665-11	ELECT	100µF	20%	25V
C1540	1-126-941-11	ELECT	470µF	20%	25V
C1541	1-102-125-00	CERAMIC	0.0047µF	10%	50V
C1542	1-102-125-00	CERAMIC	0.0047µF	10%	50V
C1545	1-126-933-11	ELECT	100µF	20%	16V
C1546	1-102-125-00	CERAMIC	0.0047µF	10%	50V
C1547	1-130-487-00	MYLAR	0.022µF	5%	50V
C1548	1-136-177-00	MYLAR	1µF	5%	50V
C1549	1-130-471-00	MYLAR	0.001µF	5%	50V
C1550	1-104-665-11	ELECT	100µF	20%	25V
C1551	1-102-121-00	CERAMIC	0.0022µF	10%	50V
C1552	1-106-220-00	MYLAR	0.1µF	10%	100V
C1555	1-104-665-11	ELECT	100µF	20%	25V
C1556	1-104-665-11	ELECT	100µF	20%	25V
C1557	1-126-969-11	ELECT	220µF	20%	50V
C1559	1-137-401-11	MYLAR	0.22µF	10%	100V
C1560	1-126-942-61	ELECT	1000µF	20%	25V
C1561	1-102-121-00	CERAMIC	0.0022µF	10%	50V
C1562	1-102-125-00	CERAMIC	0.0047µF	10%	50V
C1563	1-137-150-11	MYLAR	0.01µF	5%	50V
C1566	1-137-150-11	MYLAR	0.01µF	5%	50V
C1570	1-130-471-00	MYLAR	0.001µF	5%	50V
C1571	1-102-074-00	CERAMIC	0.001µF	10%	50V
C1572	1-102-074-00	CERAMIC	0.001µF	10%	50V
C6501	1-126-964-11	ELECT	10µF	20%	50V
C6502	1-126-961-11	ELECT	2.2µF	20%	50V
C6503	1-130-467-00	MYLAR	470pF	5%	50V
C6504	1-130-467-00	MYLAR	470pF	5%	50V
C6505	1-126-963-11	ELECT	4.7µF	20%	50V
C6506	1-104-330-91	CERAMIC	470pF	10%	1KV
C6507	1-104-330-91	CERAMIC	470pF	10%	1KV
C6508	1-130-029-00	FILM	0.0082µF	5%	50V
C6509	1-136-165-00	MYLAR	0.1µF	5%	50V
C6510	1-107-824-11	CERAMIC	220pF	5%	1KV
C6511	1-126-964-11	ELECT	10µF	20%	50V
C6513	1-102-129-00	CERAMIC	0.01µF	10%	50V
C6514	1-115-389-11	FILM	0.018µF	3%	800V
C6515	1-115-389-11	FILM	0.018µF	3%	800V
C6516	1-113-611-11	ELECT(BLOCK)	820µF	20%	250V
C6517	1-113-611-11	ELECT(BLOCK)	820µF	20%	250V
C6518	1-126-961-11	ELECT	2.2µF	20%	50V
C6519	1-126-964-11	ELECT	10µF	20%	50V
C6520	1-102-106-00	CERAMIC	100pF	10%	50V
C6521	1-102-106-00	CERAMIC	100pF	10%	50V
C6522	1-102-074-00	CERAMIC	0.001µF	10%	50V
C6523	1-102-129-00	CERAMIC	0.01µF	10%	50V
C6524	1-102-106-00	CERAMIC	100pF	10%	50V
C6525	1-102-106-00	CERAMIC	100pF	10%	50V
C6527	1-102-106-00	CERAMIC	100pF	10%	50V
C6528	1-107-679-91	ELECT	10µF	20%	450V
C6529	1-126-971-11	ELECT	470µF	20%	50V
C6530	1-126-933-11	ELECT	100µF	20%	16V
C6532	1-136-165-00	MYLAR	0.1µF	5%	50V
C6539	1-137-605-11	MYLAR	0.01µF	10%	250V
C6540	1-130-467-00	MYLAR	470pF	5%	50V
C6541	1-130-471-00	MYLAR	0.001µF	5%	50V
C6542	1-130-467-00	MYLAR	470pF	5%	50V
C6543	1-126-965-11	ELECT	22µF	20%	50V
C6544	1-136-165-00	MYLAR	0.1µF	5%	50V
C6545	1-130-471-00	MYLAR	0.001µF	5%	50V

<CONNECTOR>

CN501	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
CN502	*	1-506-371-00	PIN, CONNECTOR 2P
CN503	*	1-564-513-11	PLUG, CONNECTOR 10P
CN504	*	1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P
CN505	*	1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P
CN506	*	1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P
CN507	*	1-691-134-11	PIN, CONNECTOR (PC BOARD) 2P
CN508		1-695-915-11	TAB (CONTACT)
CN605	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
CN651	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
CN652	*	1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P
CN653		1-695-915-11	TAB (CONTACT)
CN1501	*	1-564-507-11	PLUG, CONNECTOR 4P
CN1502	*	1-779-890-11	CONNECTOR, BOARD TO BOARD 10P
CN1503	*	1-564-507-11	PLUG, CONNECTOR 4P
CN1504	*	1-564-507-11	PLUG, CONNECTOR 4P
CN1505	*	1-564-507-11	PLUG, CONNECTOR 4P
CN1506	*	1-564-506-11	PLUG, CONNECTOR 3P
CN1507	*	1-564-506-11	PLUG, CONNECTOR 3P
CN1508	*	1-564-506-11	PLUG, CONNECTOR 3P
CN6501	*	1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P
CN6502	*	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P

<DIODE>

D501		8-719-109-85	DIODE RD5.1ESB2
D505		8-719-110-41	DIODE RD15ESB2
D506		8-719-921-63	DIODE MTZJ-7.5B
D507		8-719-991-33	DIODE 1SS133T-77
D513		8-719-991-33	DIODE 1SS133T-77
D517		8-719-979-85	DIODE EGP20G
D518		8-719-945-80	DIODE ERC06-15S
D520		8-719-302-43	DIODE EL1Z
D522	⚠	8-719-302-43	DIODE EL1Z
D525		8-719-031-34	DIODE RGP02-20ELG23
D526		8-719-031-34	DIODE RGP02-20ELG23
D528		8-719-908-03	DIODE GP08D
D529		8-719-302-43	DIODE EL1Z
D530		8-719-991-33	DIODE 1SS133T-77
D531		8-719-991-33	DIODE 1SS133T-77
D532		8-719-908-03	DIODE GP08D
D533		8-719-302-43	DIODE EL1Z
D534		8-719-302-43	DIODE EL1Z
D650		8-719-028-45	DIODE D2L20U
D652		8-719-028-45	DIODE D2L20U
D653		8-719-028-45	DIODE D2L20U
D654		8-719-057-96	DIODE D10SC6M-4012
D655		8-719-052-91	DIODE D4SBS4-F
D656		8-719-028-45	DIODE D2L20U
D657		8-719-028-45	DIODE D2L20U
D659		8-719-063-70	DIODE D1NL20U

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The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
D660	8-719-028-45	DIODE D2L20U	
D661	8-719-991-33	DIODE 1SS133T-77	
D663	8-719-991-33	DIODE 1SS133T-77	
D667	8-719-032-12	DIODE D1NS6	
D670	8-719-027-22	DIODE D3S6M-F	
D671	8-719-027-22	DIODE D3S6M-F	
D672	8-719-200-82	DIODE 11ES2	
D674	8-719-991-33	DIODE 1SS133T-77	
D675	8-719-110-17	DIODE RD10ESB2	
D677	8-719-991-33	DIODE 1SS133T-77	
D1501	8-719-109-89	DIODE RD5.6ESB2	
D1503	8-719-921-40	DIODE MTZJ-4.7C	
D1504	8-719-110-08	DIODE RD8.2ESB2	
D1505	8-719-110-41	DIODE RD15ESB2	
D1506	8-719-110-41	DIODE RD15ESB2	
D1507	8-719-110-41	DIODE RD15ESB2	
D1509	8-719-110-41	DIODE RD15ESB2	
D1510	8-719-110-41	DIODE RD15ESB2	
D1513	8-719-110-41	DIODE RD15ESB2	
D1515	8-719-110-41	DIODE RD15ESB2	
D1520	8-719-109-93	DIODE RD6.2ESB2	
D1521	8-719-109-93	DIODE RD6.2ESB2	
D1522	8-719-924-16	DIODE MTZJ-T-77-24	
D1523	8-719-924-16	DIODE MTZJ-T-77-24	
D1525	8-719-908-03	DIODE GP08D	
D1526	8-719-110-41	DIODE RD15ES-B2	
D1527	8-719-110-41	DIODE RD15ES-B2	
D1528	8-719-110-41	DIODE RD15ES-B2	
D6501	8-719-979-58	DIODE EGP10D	
D6502	8-719-510-02	DIODE D1NS4	
D6503	8-719-921-88	DIODE MTZJ-13B	
D6504	8-719-979-64	DIODE µF4005PKG23	
D6505	8-719-052-90	DIODE D1NL40-TA2	
D6506	8-719-052-90	DIODE D1NL40-TA2	
D6507	8-719-110-31	DIODE RD12ESB2	
D6508	8-719-991-33	DIODE 1SS133T-77	
D6509	8-719-991-33	DIODE 1SS133T-77	
D6510	8-719-991-33	DIODE 1SS133T-77	
D6511	8-719-991-33	DIODE 1SS133T-77	
D6512	8-719-991-33	DIODE 1SS133T-77	
D6513	8-719-991-33	DIODE 1SS133T-77	
D6514	8-719-110-31	DIODE RD12ESB2	
D6515	8-719-991-33	DIODE 1SS133T-77	
D6516	8-719-991-33	DIODE 1SS133T-77	
D6517	8-719-991-33	DIODE 1SS133T-77	
D6518	8-719-991-33	DIODE 1SS133T-77	
D6519	8-719-991-33	DIODE 1SS133T-77	
D6520	8-719-991-33	DIODE 1SS133T-77	
D6521	8-719-068-00	DIODE ERC04-06SE	
D6522	8-719-068-00	DIODE ERC04-06SE	
D6523	8-719-948-45	DIODE ERA22-08	
D6524	8-719-110-41	DIODE RD15ESB2	
D6525	8-719-991-33	DIODE 1SS133T-77	
D6526	8-719-110-49	DIODE RD18ESB2	
D6527	8-719-510-48	DIODE D1N20R	
D6529	8-719-063-70	DIODE D1NL20U	
D6530	8-719-063-70	DIODE D1NL20U	
D6531	8-719-991-33	DIODE 1SS133T-77	
D6532	8-719-991-33	DIODE 1SS133T-77	

<FUSE>

F651	⚠	1-576-360-21	FUSE, MULTIPLE	
F652	⚠	1-576-360-21	FUSE, MULTIPLE	

<FERRITE BEAD>

FB651	1-410-396-41	FERRITE	0.45µH
FB655	1-410-396-41	FERRITE	0.45µH
FB656	1-410-396-41	FERRITE	0.45µH
FB6501	1-410-397-21	FERRITE	1.1µH

<IC>

IC502	8-759-133-90	IC	µPC339C
IC651	8-759-103-93	IC	µPC393C
IC652	8-759-701-84	IC	NJM7905FA
IC653	8-759-701-75	IC	NJM7805FA
IC654 ⚠	8-749-012-13	IC	DM-58
IC655	8-759-450-47	IC	BA05T
IC1501	8-752-068-36	IC	CXA1726AS
IC1502	8-749-014-37	IC	STK392-150
IC1504	8-759-634-51	IC	M5218AP
IC1505	8-759-634-51	IC	M5218AP
IC1506	8-749-014-37	IC	STK392-150
IC1507	8-759-634-51	IC	M5218AP
IC1509	8-759-593-33	IC	LA78045
IC6501	8-749-013-78	IC	MCR5102
IC6502	8-759-133-90	IC	µPC339C
IC6503	8-759-198-31	IC	µPC1093J-1-T

<COIL>

L501	1-412-533-21	INDUCTOR	47µH
L502	1-414-187-11	INDUCTOR	47µH
L503	1-459-104-00	COIL, DUST CORE	
L504 ⚠	1-419-082-11	COIL, HORIZONTAL LINEARITY	
L505	1-412-552-11	INDUCTOR	2.2mH
L651	1-419-389-21	INDUCTOR	8.2µH
L652	1-419-389-21	INDUCTOR	8.2µH
L653	1-406-975-21	INDUCTOR	47µH
L654	1-410-396-41	FERRITE	0.45µH
L655	1-410-396-41	FERRITE	0.45µH
L656	1-412-525-31	INDUCTOR	10µH
L657	1-412-525-31	INDUCTOR	10µH
L658	1-412-525-31	INDUCTOR	10µH
L659	1-412-521-31	INDUCTOR	4.7µH
L660	1-412-521-31	INDUCTOR	4.7µH
L1501	1-412-533-21	INDUCTOR	47µH
L1502	1-412-533-21	INDUCTOR	47µH
L1509	1-412-533-21	INDUCTOR	47µH
L1510	1-412-533-21	INDUCTOR	47µH
L1511	1-412-533-21	INDUCTOR	47µH
L1512	1-412-533-21	INDUCTOR	47µH

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- The components identified by ⋈ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

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REF. NO.	PART NO.	DESCRIPTION	REMARK
L1513	1-412-525-31	INDUCTOR 10µH	
L1514	1-412-911-11	FERRITE 0µH	
L1515	1-412-911-11	FERRITE 0µH	
		<NEON LAMP>	
NL501	1-517-778-21	LAMP, NEON	
NL502	1-517-778-21	LAMP, NEON	
NL503	1-517-778-21	LAMP, NEON	
NL504	1-517-778-21	LAMP, NEON	
NL505	1-517-778-21	LAMP, NEON	
		<PHOTO COUPLER>	
PH6501	8-749-924-35	PHOTO COUPLER ON3171-R	
PH6502	8-749-924-35	PHOTO COUPLER ON3171-R	
		<IC LINK>	
PS501	1-533-593-11	LINK, IC	
PS653	1-533-593-11	LINK, IC	
PS1501⚠	1-533-593-11	LINK, IC 2.0A	
PS1502⚠	1-533-593-11	LINK, IC 2.0A	
PS1503⚠	1-533-593-11	LINK, IC 2.0A	
PS1504⚠	1-533-593-11	LINK, IC 2.0A	
PS1505⚠	1-533-593-11	LINK, IC 2.0A	
PS1506⚠	1-533-593-11	LINK, IC 2.0A	
		<TRANSISTOR>	
Q501	8-729-048-47	TRANSISTOR 2SC2688(5)-LK	
Q502	8-729-048-46	TRANSISTOR 2SD2578-RF	
Q503	8-729-931-45	TRANSISTOR IRF614	
Q505	8-729-032-61	TRANSISTOR 2SC5022-02	
Q506	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q507	8-729-032-61	TRANSISTOR 2SC5022-02	
Q652	8-729-922-39	TRANSISTOR 2SD2144S-V	
Q654	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q655	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q1501	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q1502	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1503	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q1505	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q1506	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q1508	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q1509	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1511	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q6501	8-729-140-93	TRANSISTOR 2SB733-34	
Q6502	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q6503	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q6504	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q6505	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
Q6506	8-729-046-40	TRANSISTOR 2SK2663	
Q6507	8-729-922-39	TRANSISTOR 2SD2144S-V	
Q6508	8-729-119-76	TRANSISTOR 2SA1175-HFE	

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R501	1-247-843-11	CARBON	3.3K	5%	1/4W
R502	1-249-419-11	CARBON	1.5K	5%	1/4W
R503	1-260-336-11	CARBON	4.7K	5%	1/2W
R504	1-260-087-11	CARBON	100	5%	1/2W
R505	1-260-087-11	CARBON	100	5%	1/2W
R506	1-216-482-11	METAL OXIDE	1.8K	5%	3W F
R507	1-216-482-11	METAL OXIDE	1.8K	5%	3W F
R508	1-216-482-11	METAL OXIDE	1.8K	5%	3W F
R509	1-260-337-11	CARBON	5.6K	5%	1/2W
R510	1-249-421-11	CARBON	2.2K	5%	1/4W
R511	1-215-879-11	METAL OXIDE	47K	5%	1W F
R512	1-249-422-11	CARBON	2.7K	5%	1/4W
R513	1-249-422-11	CARBON	2.7K	5%	1/4W
R514	1-249-422-11	CARBON	2.7K	5%	1/4W
R515	1-260-131-11	CARBON	470K	5%	1/2W
R517	1-247-891-00	CARBON	330K	5%	1/4W
R519	1-215-445-00	METAL	10K	1%	1/4W
R520	1-260-304-51	CARBON	10K	5%	1/2W
R522	1-215-399-00	METAL	120	1%	1/4W
R523	1-247-895-91	CARBON	470K	5%	1/4W
R524	1-247-863-91	CARBON	22K	5%	1/4W
R525	1-249-428-11	CARBON	8.2K	5%	1/4W
R526	1-249-437-11	CARBON	47K	5%	1/4W
R527	1-249-428-11	CARBON	8.2K	5%	1/4W
R528	1-249-437-11	CARBON	47K	5%	1/4W
R529	1-249-439-11	CARBON	68K	5%	1/4W
R530	1-249-428-11	CARBON	8.2K	5%	1/4W
R531	1-249-429-11	CARBON	10K	5%	1/4W
R532	1-249-430-11	CARBON	12K	5%	1/4W
R535	1-247-887-00	CARBON	220K	5%	1/4W
⋈ R536 ⚠		METAL			1/4W
R537	1-247-863-91	CARBON	22K	5%	1/4W
R538	1-215-443-00	METAL	8.2K	1%	1/4W
R542	1-249-424-11	CARBON	3.9K	5%	1/4W
R543	1-260-135-11	CARBON	1M	5%	1/2W
R544	1-249-405-11	CARBON	100	5%	1/4W F
⋈ R545 ⚠		METAL			1/4W
R546	1-215-456-00	METAL	30K	1%	1/4W
R548	1-215-449-00	METAL	15K	1%	1/4W
R550	1-215-910-00	METAL OXIDE	68	5%	3W F
R551	1-215-910-00	METAL OXIDE	68	5%	3W F
R556	1-249-437-11	CARBON	47K	5%	1/4W
R563	1-247-887-00	CARBON	220K	5%	1/4W
R566	1-215-868-00	METAL OXIDE	680	5%	1W F
R567	1-249-437-11	CARBON	47K	5%	1/4W
R568	1-249-405-11	CARBON	100	5%	1/4W F
R569	1-260-314-11	CARBON	68	5%	1/2W
R570	1-247-807-31	CARBON	100	5%	1/4W
R571	1-215-917-11	METAL OXIDE	1K	5%	3W F
R572	1-216-490-11	METAL OXIDE	39K	5%	3W F
R573	1-214-912-00	METAL	91K	1%	1/2W
R574	1-216-490-11	METAL OXIDE	39K	5%	3W F
R575	1-247-863-91	CARBON	22K	5%	1/4W
R576	1-247-881-00	CARBON	120K	5%	1/4W
R577	1-214-923-00	METAL	270K	1%	1/2W

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R578	1-216-490-11	METAL OXIDE	39K	5%	3W F
R579	1-216-490-11	METAL OXIDE	39K	5%	3W F
R580	1-249-413-11	CARBON	470	5%	1/4W
R581	1-247-807-31	CARBON	100	5%	1/4W
R582	1-260-292-11	CARBON	1	5%	1/2W
R583	1-260-117-11	CARBON	33K	5%	1/2W
R584	1-249-377-11	CARBON	0.47	5%	1/4W F
R586	1-215-863-11	METAL OXIDE	100	5%	1W F
R587	1-216-349-00	METAL OXIDE	1	5%	1W F
R588	1-215-863-11	METAL OXIDE	100	5%	1W F
R589	1-247-807-31	CARBON	100	5%	1/4W
R590	1-260-127-11	CARBON	220K	5%	1/2W
R591	1-216-392-11	METAL OXIDE	1.8	5%	3W F
R592	1-247-863-91	CARBON	22K	5%	1/4W
R593	1-249-429-11	CARBON	10K	5%	1/4W
R594	1-249-377-11	CARBON	0.47	5%	1/4W F
R595	1-249-377-11	CARBON	0.47	5%	1/4W F
R596	1-249-377-11	CARBON	0.47	5%	1/4W F
R597	1-260-288-11	CARBON	0.47	5%	1/2W
R598	1-249-377-11	CARBON	0.47	5%	1/4W F
R599	1-249-429-11	CARBON	10K	5%	1/4W
R600	1-247-863-91	CARBON	22K	5%	1/4W
R652	1-249-377-11	CARBON	0.47	5%	1/4W F
R654	1-216-365-00	METAL OXIDE	0.47	5%	2W F
R655	1-249-417-11	CARBON	1K	5%	1/4W
R656	1-249-377-11	CARBON	0.47	5%	1/4W F
R657	1-215-421-00	METAL	1K	1%	1/4W
R659	1-215-446-00	METAL	11K	1%	1/4W
R660	1-215-441-00	METAL	6.8K	1%	1/4W
R661	1-215-483-00	METAL	390K	1%	1/4W
R662	1-215-445-00	METAL	10K	1%	1/4W
R663	1-215-445-00	METAL	10K	1%	1/4W
R664	1-249-425-11	CARBON	4.7K	5%	1/4W
R665	1-249-425-11	CARBON	4.7K	5%	1/4W
R666	1-249-429-11	CARBON	10K	5%	1/4W
R667	1-249-425-11	CARBON	4.7K	5%	1/4W
R668	1-249-417-11	CARBON	1K	5%	1/4W
R671	1-249-429-11	CARBON	10K	5%	1/4W
R672	1-249-417-11	CARBON	1K	5%	1/4W F
R673	1-249-425-11	CARBON	4.7K	5%	1/4W
R675	1-249-429-11	CARBON	10K	5%	1/4W
R677	1-249-417-11	CARBON	1K	5%	1/4W
R678	1-249-425-11	CARBON	4.7K	5%	1/4W
R1501	1-214-800-11	METAL	2.2	1%	1/2W
R1502	1-214-800-11	METAL	2.2	1%	1/2W
R1503	1-215-421-00	METAL	1K	1%	1/4W
R1504	1-215-433-00	METAL	3.3K	1%	1/4W
R1505	1-247-815-91	CARBON	220	5%	1/4W
R1506	1-247-815-91	CARBON	220	5%	1/4W
R1507	1-215-433-00	METAL	3.3K	1%	1/4W
R1508	1-215-421-00	METAL	1K	1%	1/4W
R1509	1-214-800-11	METAL	2.2	1%	1/2W
R1510	1-214-800-11	METAL	2.2	1%	1/2W
R1511	1-214-800-11	METAL	2.2	1%	1/2W
R1512	1-214-800-11	METAL	2.2	1%	1/2W
R1513	1-215-421-00	METAL	1K	1%	1/4W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R1514	1-215-433-00	METAL	3.3K	1%	1/4W
R1515	1-247-815-91	CARBON	220	5%	1/4W
R1516	1-249-429-11	CARBON	10K	5%	1/4W
R1517	1-247-887-00	CARBON	220K	5%	1/4W
R1518	1-249-429-11	CARBON	10K	5%	1/4W
R1519	1-249-437-11	CARBON	47K	5%	1/4W
R1520	1-247-881-00	CARBON	120K	5%	1/4W
R1521	1-215-474-00	METAL	160K	1%	1/4W
R1522	1-214-800-11	METAL	2.2	1%	1/2W
R1523	1-214-800-11	METAL	2.2	1%	1/2W
R1524	1-215-421-00	METAL	1K	1%	1/4W
R1525	1-215-433-00	METAL	3.3K	1%	1/4W
R1526	1-247-815-91	CARBON	220	5%	1/4W
R1527	1-247-815-91	CARBON	220	5%	1/4W
R1528	1-215-433-00	METAL	3.3K	1%	1/4W
R1529	1-215-421-00	METAL	1K	1%	1/4W
R1530	1-214-800-11	METAL	2.2	1%	1/2W
R1531	1-214-800-11	METAL	2.2	1%	1/2W
R1532	1-214-800-11	METAL	2.2	1%	1/2W
R1533	1-249-441-11	CARBON	100K	5%	1/4W
R1534	1-214-800-11	METAL	2.2	1%	1/2W
R1535	1-215-421-00	METAL	1K	1%	1/4W
R1536	1-215-433-00	METAL	3.3K	1%	1/4W
R1537	1-247-815-91	CARBON	220	5%	1/4W
R1538	1-249-429-11	CARBON	10K	5%	1/4W
R1539	1-249-428-11	CARBON	8.2K	5%	1/4W
R1540	1-249-417-11	CARBON	1K	5%	1/4W
R1541	1-247-843-11	CARBON	3.3K	5%	1/4W
R1542	1-249-429-11	CARBON	10K	5%	1/4W
R1543	1-249-429-11	CARBON	10K	5%	1/4W
R1544	1-249-419-11	CARBON	1.5K	5%	1/4W
R1548	1-249-438-11	CARBON	56K	5%	1/4W
R1549	1-214-800-11	METAL	2.2	1%	1/2W
R1550	1-215-447-00	METAL	12K	1%	1/4W
R1551	1-249-428-11	CARBON	8.2K	5%	1/4W
R1552	1-214-800-11	METAL	2.2	1%	1/2W
R1554	1-215-449-00	METAL	15K	1%	1/4W
R1555	1-247-807-31	CARBON	100	5%	1/4W
R1556	1-247-863-91	CARBON	22K	5%	1/4W
R1557	1-249-429-11	CARBON	10K	5%	1/4W
R1558	1-249-429-11	CARBON	10K	5%	1/4W
R1559	1-215-857-11	METAL OXIDE	10	5%	1W F
R1560	1-216-452-11	METAL OXIDE	180	5%	2W F
R1561	1-249-429-11	CARBON	10K	5%	1/4W
R1562	1-249-429-11	CARBON	10K	5%	1/4W
R1563	1-249-429-11	CARBON	10K	5%	1/4W
R1564	1-215-445-00	METAL	10K	1%	1/4W
R1565	1-249-429-11	CARBON	10K	5%	1/4W
R1566	1-249-427-11	CARBON	6.8K	5%	1/4W
R1567	1-247-863-91	CARBON	22K	5%	1/4W
R1568	1-249-429-11	CARBON	10K	5%	1/4W
R1570	1-249-383-11	CARBON	1.5	5%	1/4W F
R1576	1-249-429-11	CARBON	10K	5%	1/4W
R1577	1-215-447-00	METAL	12K	1%	1/4W
R1578	1-249-429-11	CARBON	10K	5%	1/4W
R1579	1-215-421-00	METAL	1K	1%	1/4W
R1580	1-215-421-00	METAL	1K	1%	1/4W

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R1581	1-215-474-00	METAL	160K	1%	1/4W
R1582	1-249-421-11	CARBON	2.2K	5%	1/4W
R1583	1-247-807-31	CARBON	100	5%	1/4W
R1584	1-247-863-91	CARBON	22K	5%	1/4W
R1585	1-215-449-00	METAL	15K	1%	1/4W
R1586	1-249-441-11	CARBON	100K	5%	1/4W
R1587	1-249-414-11	CARBON	560	5%	1/4W
R1588	1-249-414-11	CARBON	560	5%	1/4W
R1589	1-249-414-11	CARBON	560	5%	1/4W
R1590	1-249-414-11	CARBON	560	5%	1/4W
R1591	1-249-414-11	CARBON	560	5%	1/4W
R1592	1-249-414-11	CARBON	560	5%	1/4W
R1593	1-216-475-11	METAL OXIDE	120	5%	3W F
R1594	1-216-475-11	METAL OXIDE	120	5%	3W F
R1595	1-216-475-11	METAL OXIDE	120	5%	3W F
R1596	1-216-475-11	METAL OXIDE	120	5%	3W F
R1597	1-216-475-11	METAL OXIDE	120	5%	3W F
R1598	1-216-475-11	METAL OXIDE	120	5%	3W F
R1599	1-249-429-11	CARBON	10K	5%	1/4W
R1600	1-247-807-31	CARBON	100	5%	1/4W
R1601	1-249-437-11	CARBON	47K	5%	1/4W
R1602	1-247-807-31	CARBON	100	5%	1/4W
R1603	1-249-418-11	CARBON	1.2K	5%	1/4W
R1604	1-249-429-11	CARBON	10K	5%	1/4W
R1609	1-215-445-00	METAL	10K	1%	1/4W
R1610	1-247-807-31	CARBON	100	5%	1/4W
R1611	1-247-807-31	CARBON	100	5%	1/4W
R1612	1-249-429-11	CARBON	10K	5%	1/4W
R1613	1-249-429-11	CARBON	10K	5%	1/4W
R1615	1-215-445-00	METAL	10K	1%	1/4W
R6501	1-215-432-00	METAL	3K	1%	1/4W
R6502	1-249-401-11	CARBON	47	5%	1/4W F
R6503	1-219-512-11	CARBON	2.2M	5%	1/2W
R6504	1-216-381-11	METAL OXIDE	0.22	5%	3W F
R6505	1-216-381-11	METAL OXIDE	0.22	5%	3W F
R6506	1-215-421-00	METAL	1K	1%	1/4W
R6507	1-219-512-11	CARBON	2.2M	5%	1/2W
R6508	1-215-481-00	METAL	330K	1%	1/4W
R6509	1-215-481-00	METAL	330K	1%	1/4W
R6510	1-215-421-00	METAL	1K	1%	1/4W
R6511	1-215-448-00	METAL	13K	1%	1/4W
R6512	1-215-481-00	METAL	330K	1%	1/4W
R6514	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R6515	1-260-131-11	CARBON	470K	5%	1/2W
R6516	1-260-131-11	CARBON	470K	5%	1/2W
R6517	1-249-429-11	CARBON	10K	5%	1/4W
R6518	1-247-863-91	CARBON	22K	5%	1/4W
R6519	1-215-864-00	METAL OXIDE	150	5%	1W F
R6520	1-249-429-11	CARBON	10K	5%	1/4W
R6521	1-249-429-11	CARBON	10K	5%	1/4W
R6522	1-247-863-91	CARBON	22K	5%	1/4W
R6523	1-249-425-11	CARBON	4.7K	5%	1/4W
R6524	1-249-425-11	CARBON	4.7K	5%	1/4W
R6525	1-249-429-11	CARBON	10K	5%	1/4W
R6526	1-249-437-11	CARBON	47K	5%	1/4W
R6527	1-215-489-00	METAL	680K	1%	1/4W
R6528	1-215-489-00	METAL	680K	1%	1/4W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R6529	1-215-489-00	METAL	680K	1%	1/4W
R6530	1-215-489-00	METAL	680K	1%	1/4W
R6531	1-215-489-00	METAL	680K	1%	1/4W
R6532	1-215-489-00	METAL	680K	1%	1/4W
R6533	1-215-489-00	METAL	680K	1%	1/4W
R6534	1-215-489-00	METAL	680K	1%	1/4W
R6535	1-215-489-00	METAL	680K	1%	1/4W
R6536	1-215-489-00	METAL	680K	1%	1/4W
R6537	1-247-895-91	CARBON	470K	5%	1/4W
R6538	1-215-489-00	METAL	680K	1%	1/4W
R6539	1-215-489-00	METAL	680K	1%	1/4W
R6540	1-215-471-00	METAL	120K	1%	1/4W
R6541	1-215-466-00	METAL	75K	1%	1/4W
R6542	1-215-471-00	METAL	120K	1%	1/4W
R6543	1-215-466-00	METAL	75K	1%	1/4W
R6544	1-215-457-00	METAL	33K	1%	1/4W
R6545	1-215-466-00	METAL	75K	1%	1/4W
R6546	1-215-458-00	METAL	36K	1%	1/4W
R6547	1-215-437-00	METAL	4.7K	1%	1/4W
R6548	1-249-429-11	CARBON	10K	5%	1/4W
R6549	1-215-463-00	METAL	56K	1%	1/4W
R6550	1-215-465-00	METAL	68K	1%	1/4W
R6551	1-215-469-00	METAL	100K	1%	1/4W
R6552	1-215-485-00	METAL	470K	1%	1/4W
R6553	1-215-473-00	METAL	150K	1%	1/4W
R6554	1-215-469-00	METAL	100K	1%	1/4W
R6555	1-215-483-00	METAL	390K	1%	1/4W
R6556	1-215-445-00	METAL	10K	1%	1/4W
R6557	1-215-469-00	METAL	100K	1%	1/4W
R6558	1-215-469-00	METAL	100K	1%	1/4W
R6559	1-215-445-00	METAL	10K	1%	1/4W
R6561	1-249-413-11	CARBON	470	5%	1/4W
R6562	1-249-421-11	CARBON	2.2K	5%	1/4W
R6563	1-249-429-11	CARBON	10K	5%	1/4W
R6564	1-215-857-11	METAL OXIDE	10	5%	1W F
R6565	1-249-389-11	CARBON	4.7	5%	1/4W F
R6566	1-215-493-00	METAL	1M	1%	1/4W
R6567	1-240-205-91	CARBON	22M	5%	1/2W
R6568	1-249-421-11	CARBON	2.2K	5%	1/4W
R6569	1-247-791-91	CARBON	22	5%	1/4W
R6570	1-249-441-11	CARBON	100K	5%	1/4W
R6571	1-249-437-11	CARBON	47K	5%	1/4W
R6572	1-249-413-11	CARBON	470	5%	1/4W
R6573	1-249-415-11	CARBON	680	5%	1/4W
R6574	1-260-298-51	CARBON	3.3	5%	1/2W
R6575	1-249-429-11	CARBON	10K	5%	1/4W
R6576	1-249-439-11	CARBON	68K	5%	1/4W
R6577	1-215-857-11	METAL OXIDE	10	5%	1W
R6580	1-249-429-11	CARBON	10K	5%	1/4W

<RELAY>

RY6501	1-515-999-11	RELAY, POWER			
RY6502	1-515-999-11	RELAY, POWER			

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF. NO.		PART NO.	DESCRIPTION				REMARK
			<SPARK GAP>				
SG501		1-519-466-11	GAP, SPARK				
SG502		1-519-466-11	GAP, SPARK				
			<TRANSFORMER>				
T501	⚠	1-433-836-11	TRANSFORMER, HORIZONTAL DRIVE				
T502	⚠	1-433-876-11	TRANSFORMER, FERRITE (PMT)				
T504	⚠	1-453-238-31	FBT ASSY				
T6501	⚠	1-433-871-11	TRANSFORMER, CONVERTER (PIT)				
T6502		1-433-844-11	TRANSFORMER, CONVERTER				
			<THERMISTOR>				
TH1501		1-807-925-11	THERMISTOR				
TH6501		1-803-586-11	THERMISTOR, NTC				
**********							
	*	A-1332-088-A	CR BOARD, COMPLETE				
			**********				
		4-382-854-11	SCREW(M3X10), P, SW (+)				
			<CAPACITOR>				
C701		1-104-570-11	CERAMIC	0.001µF	10%	2KV	
C703		1-126-947-11	ELECT	47µF	20%	25V	
C706		1-102-114-00	CERAMIC	470pF	10%	50V	
C708		1-102-113-00	CERAMIC	390pF	10%	50V	
C709		1-101-880-00	CERAMIC	47pF	5%	50V	
C710		1-162-115-00	CERAMIC	330pF	10%	2KV	
C711		1-161-830-00	CERAMIC	0.0047µF		500V	
C712		1-107-662-11	ELECT	22µF	20%	250V	
			<CONNECTOR>				
CN701	*	1-564-507-11	PLUG, CONNECTOR 4P				
CN702	*	1-564-512-11	PLUG, CONNECTOR 9P				
CN703		1-785-879-11	CONNECTOR, ONE TOUCH				
CN704	⚠	1-251-182-11	SOCKET, CRT				
CN705		1-695-915-11	TAB (CONTACT)				
CN706		1-695-915-11	TAB (CONTACT)				
			<DIODE>				
D705		8-719-991-33	DIODE 1SS133T-77				
D706		8-719-991-33	DIODE 1SS133T-77				
D707		8-719-991-33	DIODE 1SS133T-77				
D708		8-719-991-33	DIODE 1SS133T-77				
D709		8-719-991-33	DIODE 1SS133T-77				
			<COIL>				
L701		1-414-188-41	INDUCTOR	68µH			
L702		1-412-911-11	FERRITE	0µH			

REF. NO.		PART NO.	DESCRIPTION				REMARK
			<NEON LAMP>				
NL701		1-517-778-21	LAMP, NEON				
			<TRANSISTOR>				
Q704		8-729-423-33	TRANSISTOR 2SC3311A-QRSTA				
Q705		8-729-326-11	TRANSISTOR 2SC2611				
Q706		8-729-200-17	TRANSISTOR 2SA1091-O				
			<RESISTOR>				
R701		1-219-743-11	CARBON	100	5%	1/2W	
R702		1-260-132-11	CARBON	560K	5%	1/2W	
R703		1-216-486-00	METAL OXIDE	8.2K	5%	3W	
R704		1-215-476-00	METAL	200K	1%	1/4W	
R711		1-247-807-31	CARBON	100	5%	1/4W	
R712		1-249-404-00	CARBON	82	5%	1/4W	
R713		1-216-486-00	METAL OXIDE	8.2K	5%	3W	
R714		1-249-393-11	CARBON	10	5%	1/4W	
R715		1-249-419-11	CARBON	1.5K	5%	1/4W	
R718		1-260-133-11	CARBON	680K	5%	1/2W	
R719		1-249-425-11	CARBON	4.7K	5%	1/4W	
R720		1-260-099-11	CARBON	1K	5%	1/2W	
R721		1-260-099-11	CARBON	1K	5%	1/2W	
R722		1-260-087-11	CARBON	100	5%	1/2W	
R723		1-412-911-11	FERRITE	0µH			
			<SPARK GAP>				
SG701		1-519-422-11	GAP, SPARK				
SG702		1-517-729-31	GAP, SPARK				
			<TEST PIN>				
TP701	*	1-535-881-21	TERMINAL, TP (AUTO INSERTION)				
**********							
	*	A-1332-089-A	CG BOARD, COMPLETE				
			**********				
		4-382-854-11	SCREW(M3X10), P, SW (+)				
			<CAPACITOR>				
C731		1-126-947-11	ELECT	47µF	20%	25V	
C732		1-104-570-11	CERAMIC	0.001µF	10%	2KV	
C733		1-102-114-00	CERAMIC	470pF	10%	50V	
C734		1-102-114-00	CERAMIC	470pF	10%	50V	
C735		1-101-880-00	CERAMIC	47pF	5%	50V	
C736		1-161-830-00	CERAMIC	0.0047µF		500V	
C737		1-162-115-00	CERAMIC	330pF	10%	2KV	
C738		1-107-662-11	ELECT	22µF	20%	250V	
C1301		1-104-987-01	MYLAR	0.001µF	10%	200V	
C1302		1-107-639-11	ELECT	47µF	20%	160V	
C1303		1-126-933-11	ELECT	100µF	20%	16V	

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REF. NO.	PART NO.	DESCRIPTION			REMARK
C1305	1-126-933-11	ELECT	100µF	20%	16V
C1308	1-106-383-00	MYLAR	0.047µF	10%	200V
C1309	1-106-383-00	MYLAR	0.047µF	10%	200V
C1310	1-126-960-11	ELECT	1µF	20%	50V
C1312	1-161-830-00	CERAMIC	0.0047µF		500V
C1313	1-102-129-00	CERAMIC	0.01µF	10%	50V
C1314	1-102-129-00	CERAMIC	0.01µF	10%	50V
C1315	1-126-933-11	ELECT	100µF	20%	16V
		<CONNECTOR>			
CN731 *	1-564-512-11	PLUG, CONNECTOR 9P			
CN732 *	1-564-507-11	PLUG, CONNECTOR 4P			
CN733 *	1-564-508-11	PLUG, CONNECTOR 5P			
CN734 *	1-564-513-11	PLUG, CONNECTOR 10P			
CN735 *	1-564-512-11	PLUG, CONNECTOR 9P			
CN736 *	1-564-512-11	PLUG, CONNECTOR 9P			
CN737	1-785-879-11	CONNECTOR, ONE TOUCH			
CN738	1-695-915-11	TAB (CONTACT)			
CN739	1-695-915-11	TAB (CONTACT)			
CN740⚠	1-251-182-11	SOCKET, CRT			
CN1301*	1-564-506-11	PLUG, CONNECTOR 3P			
CN1302*	1-564-506-11	PLUG, CONNECTOR 3P			
CN1303*	1-564-506-11	PLUG, CONNECTOR 3P			
CN1304*	1-564-509-11	PLUG, CONNECTOR 6P			
		<DIODE>			
D731	8-719-991-33	DIODE 1SS133T-77			
D732	8-719-991-33	DIODE 1SS133T-77			
D733	8-719-991-33	DIODE 1SS133T-77			
D734	8-719-991-33	DIODE 1SS133T-77			
D735	8-719-991-33	DIODE 1SS133T-77			
D736	8-719-109-85	DIODE RD5.1ESB1			
D1304	8-719-991-33	DIODE 1SS133T-77			
		<COIL>			
L731	1-414-188-41	INDUCTOR	68µH		
L732	1-412-911-11	FERRITE	0µH		
L1301	1-412-911-11	FERRITE	0µH		
L1302	1-412-911-11	FERRITE	0µH		
		<NEON LAMP>			
NL731	1-517-778-21	LAMP, NEON			
		<TRANSISTOR>			
Q731	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q732	8-729-326-11	TRANSISTOR 2SC2611			
Q733	8-729-200-17	TRANSISTOR 2SA1091-O			
Q734	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q1301	8-729-017-06	TRANSISTOR 2SC4793			
Q1302	8-729-017-05	TRANSISTOR 2SA1837			
Q1303	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q1304	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q1305	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q1306	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
		<RESISTOR>			
R731	1-219-743-11	CARBON	100	5%	1/2W
R732	1-260-132-11	CARBON	560K	5%	1/2W
R733	1-247-807-31	CARBON	100	5%	1/4W
R734	1-260-087-11	CARBON	100	5%	1/2W
R735	1-249-403-11	CARBON	68	5%	1/4W
R736	1-216-486-00	METAL OXIDE	8.2K	5%	3W F
R737	1-249-393-11	CARBON	10	5%	1/4W
R738	1-249-414-11	CARBON	560	5%	1/4W
R739	1-216-486-00	METAL OXIDE	8.2K	5%	3W F
R741	1-249-425-11	CARBON	4.7K	5%	1/4W
R742	1-260-099-11	CARBON	1K	5%	1/2W
R743	1-247-881-00	CARBON	120K	1%	1/4W
R744	1-260-133-11	CARBON	680K	5%	1/2W
R745	1-260-099-11	CARBON	1K	5%	1/2W
R746	1-249-437-11	CARBON	47K	5%	1/4W
R747	1-249-438-11	CARBON	56K	5%	1/4W
R753	1-412-911-11	FERRITE	0µH		
R1301	1-215-916-00	METAL OXIDE	680	5%	3W F
R1302	1-215-916-00	METAL OXIDE	680	5%	3W F
R1303	1-249-400-11	CARBON	39	5%	1/4W F
R1304	1-249-391-11	CARBON	6.8	5%	1/4W F
R1305	1-249-391-11	CARBON	6.8	5%	1/4W F
R1306	1-249-429-11	CARBON	10K	5%	1/4W
R1307	1-260-311-11	CARBON	39	5%	1/2W
R1308	1-249-419-11	CARBON	1.5K	5%	1/4W
R1310	1-249-441-11	CARBON	100K	5%	1/4W
R1311	1-249-419-11	CARBON	1.5K	5%	1/4W F
R1314	1-249-419-11	CARBON	1.5K	5%	1/4W
R1315	1-249-399-11	CARBON	33	5%	1/4W
R1319	1-249-413-11	CARBON	470	5%	1/4W
R1321	1-249-406-11	CARBON	120	5%	1/4W
R1323	1-249-377-11	CARBON	0.47	5%	1/4W F
R1324	1-249-425-11	CARBON	4.7K	5%	1/4W
R1325	1-249-431-11	CARBON	15K	5%	1/4W
R1327	1-249-441-11	CARBON	100K	5%	1/4W
R1328	1-249-435-11	CARBON	33K	5%	1/4W
		<SPARK GAP>			
SG731	1-519-422-11	GAP, SPARK			
SG732	1-517-729-31	GAP, SPARK			
		<TEST PIN>			
TP731 *	1-535-881-21	TERMINAL, TP (AUTO INSERTION)			
TP732 *	1-535-881-21	TERMINAL, TP (AUTO INSERTION)			
TP733 *	1-535-881-21	TERMINAL, TP (AUTO INSERTION)			

****

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

CB HC HA

REF. NO.	PART NO.	DESCRIPTION			REMARK
*	A-1332-090-A	CB BOARD, COMPLETE			
		**********			
	4-382-854-11	SCREW(M3X10), P, SW (+)			
		<CAPACITOR>			
C761	1-126-947-11	ELECT	47µF	20%	25V
C762	1-104-570-11	CERAMIC	0.001µF	10%	2KV
C763	1-102-114-00	CERAMIC	470pF	10%	50V
C764	1-102-112-00	CERAMIC	330pF	10%	50V
C765	1-101-880-00	CERAMIC	47pF	5%	50V
C767	1-162-115-00	CERAMIC	330pF	10%	2KV
C768	1-126-964-11	ELECT	10µF	20%	50V
C769	1-161-830-00	CERAMIC	0.0047µF		500V
C770	1-107-662-11	ELECT	22µF	20%	250V
		<CONNECTOR>			
CN761 *	1-564-508-11	PLUG, CONNECTOR 5P			
CN762 *	1-564-512-11	PLUG, CONNECTOR 9P			
CN763	1-785-879-11	CONNECTOR, ONE TOUCH			
CN764	1-695-915-11	TAB (CONTACT)			
CN765	1-695-915-11	TAB (CONTACT)			
CN766⚠	1-251-182-11	SOCKET, CRT			
		<DIODE>			
D761	8-719-991-33	DIODE 1SS133T-77			
D762	8-719-991-33	DIODE 1SS133T-77			
D763	8-719-991-33	DIODE 1SS133T-77			
D764	8-719-991-33	DIODE 1SS133T-77			
D765	8-719-991-33	DIODE 1SS133T-77			
		<COIL>			
L761	1-414-188-41	INDUCTOR	68µH		
L762	1-412-911-11	FERRITE	0µH		
		<NEON LAMP>			
NL761	1-517-778-21	LAMP, NEON			
		<TRANSISTOR>			
Q761	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA			
Q762	8-729-326-11	TRANSISTOR 2SC2611			
Q763	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q764	8-729-200-17	TRANSISTOR 2SA1091-O			
		<RESISTOR>			
R761	1-219-743-11	CARBON	100	5%	1/2W
R762	1-260-132-11	CARBON	560K	5%	1/2W
R763	1-247-807-31	CARBON	100	5%	1/4W
R764	1-216-486-00	METAL OXIDE	8.2K	5%	3W F
R765	1-247-807-31	CARBON	100	5%	1/4W
R766	1-216-486-00	METAL OXIDE	8.2K	5%	3W F
R767	1-249-393-11	CARBON	10	5%	1/4W
R768	1-249-418-11	CARBON	1.2K	5%	1/4W
R770	1-249-404-00	CARBON	82	5%	1/4W
R771	1-249-426-11	CARBON	5.6K	5%	1/4W
R772	1-249-435-11	CARBON	33K	5%	1/4W
R773	1-260-099-11	CARBON	1K	5%	1/2W
R775	1-249-425-11	CARBON	4.7K	5%	1/4W
R776	1-260-133-11	CARBON	680K	5%	1/2W
R777	1-260-099-11	CARBON	1K	5%	1/2W
R778	1-259-880-11	CARBON	2.2M	5%	1/4W
R779	1-260-087-11	CARBON	100	5%	1/2W
R783	1-412-911-11	FERRITE	0µH		
		<SPARK GAP>			
SG761	1-519-422-11	GAP, SPARK			
SG762	1-517-729-31	GAP, SPARK			
		<TEST PIN>			
TP761 *	1-535-881-21	TERMINAL, TP (AUTO INSERTION)			
**********					
*	A-1372-864-A	HC BOARD, COMPLETE			
		**********			
		<CAPACITOR>			
C1291	1-126-791-11	ELECT	10µF	20%	16V
		<CONNECTOR>			
CN1291*	1-564-518-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D1291	8-719-066-43	DIODE GP1U28Y			
D1292	8-719-109-89	DIODE RD5.6ESB2			
D1293	8-719-109-89	DIODE RD5.6ESB2			
		<RESISTOR>			
R1291	1-247-807-31	CARBON	100	5%	1/4W
**********					
*	A-1372-862-A	HA BOARD, COMPLETE			
		**********			
		<CONNECTOR>			
CN1202*	1-564-517-11	PLUG, CONNECTOR 2P			
CN1203*	1-564-522-11	PLUG, CONNECTOR 7P			

HA HB

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<DIODE>			
D1201	8-719-053-43	DIODE SLR-325VCT31			
		<RESISTOR>			
R1201	1-249-431-11	CARBON	15K	5%	1/4W
R1202	1-249-425-11	CARBON	4.7K	5%	1/4W
R1203	1-249-417-11	CARBON	1K	5%	1/4W
R1204	1-249-419-11	CARBON	1.5K	5%	1/4W
R1205	1-249-421-11	CARBON	2.2K	5%	1/4W
R1206	1-247-815-91	CARBON	220	5%	1/4W
		<SWITCH>			
S1201	1-572-198-11	SWITCH, KEYBOARD (FLASH FOCUS)			
S1202	1-572-198-11	SWITCH, KEYBOARD (TV/VIDEO)			
S1203	1-572-198-11	SWITCH, KEYBOARD (VOLUME -)			
S1204	1-572-198-11	SWITCH, KEYBOARD (VOLUME +)			
S1205	1-572-198-11	SWITCH, KEYBOARD (CHANNEL -)			
S1206	1-572-198-11	SWITCH, KEYBOARD (CHANNEL +)			
S1207	1-572-198-11	SWITCH, KEYBOARD (POWER)			
**********					
*	A-1372-863-A	HB BOARD, COMPLETE			
		**********			
		<CAPACITOR>			
C1251	1-128-551-11	ELECT	22µF	20%	25V
C1252	1-128-551-11	ELECT	22µF	20%	25V
C1253	1-128-551-11	ELECT	22µF	20%	25V
C1254	1-128-551-11	ELECT	22µF	20%	25V
C1255	1-128-551-11	ELECT	22µF	20%	25V
		<CONNECTOR>			
CN1252*	1-564-517-11	PLUG, CONNECTOR 2P			
CN1253*	1-564-526-11	PLUG, CONNECTOR 11P			
		<DIODE>			
D1251	8-719-110-17	DIODE RD10ESB2			
D1252	8-719-110-17	DIODE RD10ESB2			
D1253	8-719-110-17	DIODE RD10ESB2			
D1254	8-719-110-17	DIODE RD10ESB2			
D1255	8-719-110-17	DIODE RD10ESB2			
D1256	8-719-110-17	DIODE RD10ESB2			
		<JACK>			
J1251	1-770-361-11	TERMINAL BLOCK, S			
		<RESISTOR>			
R1251	1-249-429-11	CARBON	10K	5%	1/4W
R1252	1-249-424-11	CARBON	3.9K	5%	1/4W
R1253	1-249-421-11	CARBON	2.2K	5%	1/4W
R1254	1-249-418-11	CARBON	1.2K	5%	1/4W
R1255	1-249-425-11	CARBON	4.7K	5%	1/4W
R1256	1-247-804-11	CARBON	75	5%	1/4W
R1257	1-247-895-91	CARBON	470K	5%	1/4W
R1258	1-247-895-91	CARBON	470K	5%	1/4W
R1259	1-247-804-11	CARBON	75	5%	1/4W
R1260	1-247-804-11	CARBON	75	5%	1/4W
		<SWITCH>			
S1251	1-572-198-11	SWITCH, KEYBOARD (SELECT)			
S1252	1-572-198-11	SWITCH, KEYBOARD (+)			
S1253	1-572-198-11	SWITCH, KEYBOARD (-)			
S1254	1-572-198-11	SWITCH, KEYBOARD (MENU)			
S1255	1-572-198-11	SWITCH, KEYBOARD (SET UP)			
**********					
		MISCELLANEOUS			
		**********			
⚠	1-223-925-11	RESISTOR ASSY (HIGH-VOLTAGE) (FOCUS PACK)			
⚠	1-451-496-11	DEFLECTION YOKE			
⚠	1-452-790-21	NECK ASSY			
⚠	1-452-909-31	MAGNET ASSY, 4 POLE			
	1-528-864-11	BATTERY, SOLAR			
	1-529-396-11	SPEAKER (10cm)			
	1-556-945-21	CABLE, P-P			
*	1-557-056-31	CABLE, P-P			
⚠	1-771-787-11	SWITCH, RF ANTENNA			
⚠	1-775-468-11	CORD, POWER (WITH CONNECTOR)			
⚠	8-598-955-30	BLOCK ASSY, HIGH-VOLTAGE			
⚠	8-733-570-35	CRT 07MXC2(G)(NEW GUN)			
⚠	8-733-571-35	CRT 07MXC2(R)(NEW GUN)			
⚠	8-733-574-15	CRT 07MAC2(B)(HEATER)			
**********					
		ACCESSORIES AND PACKING MATERIALS			
		**********			
*	4-029-168-01	BAG, PROTECTION			
*	4-030-895-01	JOINT			
*	4-041-423-11	SHEET, PROTECTION			
*	4-076-536-01	TRAY			
*	4-076-538-01	CUSHION (UPPER) (ASSY)			
*	4-077-602-01	INDIVIDUAL CARTON			
*	4-077-603-01	CUSHION (LOWER) (ASSY)			
	4-085-102-11	MANUAL, INSTRUCTION (XR432N90)			
	4-085-102-21	MANUAL, INSTRUCTION (XR432K90)			
		REMOTE COMMANDER			
		**********			
	1-418-469-11	REMOTE COMMANDER (RM-Y906) (XR432N90)			
	1-418-755-12	REMOTE COMMANDER (RM-Y906K) (XR432K90)			
	4-978-977-01	COVER, BATTERY (FOR RM-Y906/Y906K)			

Sony Corporation
HNC. HVC. Projection Display Business. Div

English
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9-965-435-01

SONY

4-085-102-**E1**(1)

Projection TV

Operating Instructions

FLASH FOCUS

Free Layout Picture-in-Picture (PIP)

Glowing Remote

BBE

KP-XR432K90

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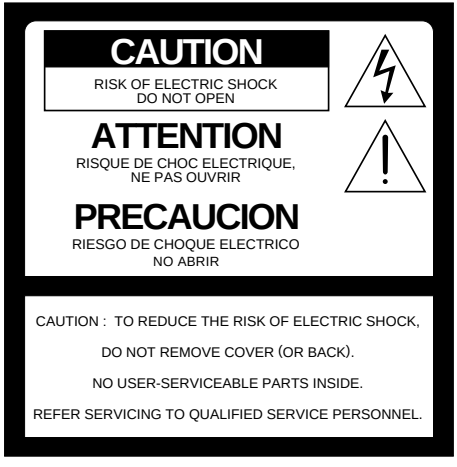
WARNING

To prevent fire or shock hazard, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

To prevent electric shock, do not use this polarized AC plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

CAUTION

When using TV games, computers and similar products with your projection TV, or viewing a TV station whose logo always stays on the screen, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern such as a station logo is left on the screen for long periods of time, especially at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. These types of imprints are not covered by your warranty.

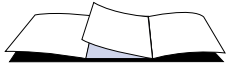
Note on convergence adjustment

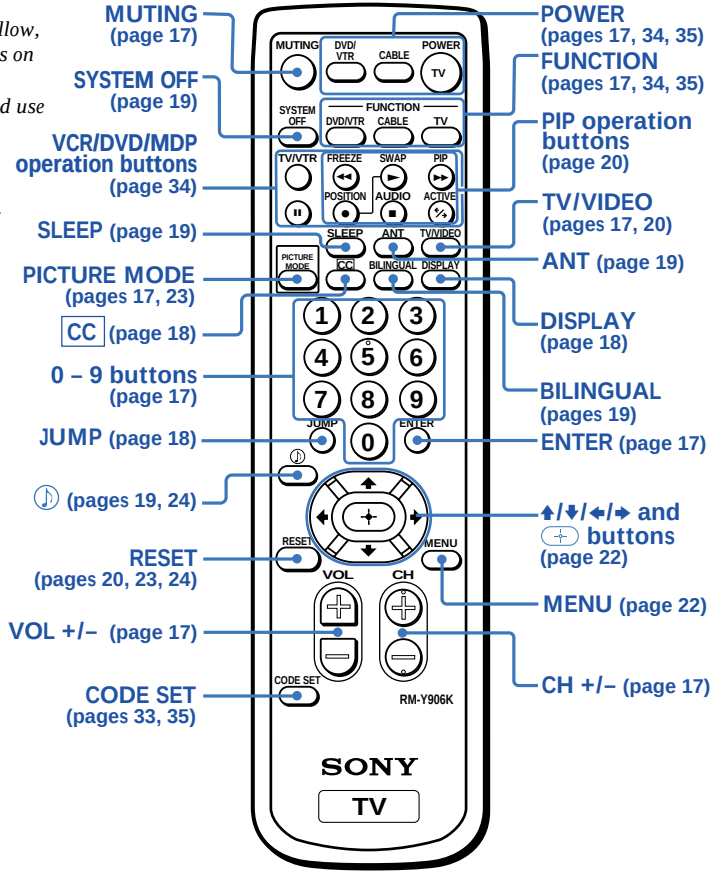
Before you use your projection TV, make sure to adjust convergence. For details, see page 16.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Remote Control

In the instructions that follow, we will refer to the buttons on your remote control.
Keep this flap unfolded and use this page for reference.





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SLEEP (page 19)

PICTURE MODE (pages 17, 23)

CC (page 18)

0 – 9 buttons (page 17)

JUMP (page 18)

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DISPLAY (page 18)

BILINGUAL (pages 19)

ENTER (page 17)

↑/↓/←/→ and ⊕ buttons (page 22)

MENU (page 22)

CH +/– (page 17)

Getting to know the buttons on the remote control

Names of the buttons on the remote control are presented in different colors to represent the available functions.

Button color

Transparent .... Press to select the component you want to control; e.g. VTR (VCR) / MDP / DVD Player, CABLE, or projection TV.

Green ..... Buttons relevant to power operations, like turning the projection TV, CABLE, or VTR (VCR) / MDP / DVD Player on or off

Label color

White ..... TV / VTR (VCR) / MDP / DVD Player / CABLE operation buttons

Yellow ..... PIP operation buttons

Green ..... Power operation buttons

Pink ..... DVD Player operation buttons

For a detailed explanation of most buttons, see "Watching the TV" on page 17.

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Open Here For Table of Contents and Remote Control Graphics

Welcome!

Thank you for purchasing the Sony Projection TV.

The features you will enjoy include:

- FLASH FOCUS, allowing you to adjust convergence automatically.
- Picture-in-Picture (PIP), allowing you to view another TV channel, video or cable image as a window picture.
- Favorite Channel, allowing you to view and choose from eight of your favorite channels
- Y / P_B / P_R inputs for DVD Player connections.
- Three AUDIO / VIDEO / S VIDEO inputs.

Using This Manual

We recommend that you carefully review the contents of the following four sections in the order provided to ensure that you fully understand the operation of your new projection TV.

1 Installing and Connecting the Projection TV
This section guides you through your initial set up. It shows you how to install your projection TV, to connect your new components and to connect to the antenna and cable.

2 Basic Set Up
This section teaches you the basic skills needed to operate your new projection TV, including Auto Set Up. It shows you how to operate the remote control's special functions.

3 Using Your New Projection TV
This section shows you how to begin using your new projection TV. It shows you how to use your remote control's features.

4 Adjusting Your Set Up (menus)
This section teaches you how to access on-screen menus and adjust your projection TV's settings.

Instructions in this manual are written for the remote control. Similar controls may be found on the projection TV console.

Precautions

Safety

- Operate the projection TV only on 220 V AC.
- The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object should fall inside the cabinet, unplug the projection TV immediately and have it checked by qualified service personnel before operating it further.
- If you will not be using the projection TV for several days, disconnect the power by pulling the plug itself. Never pull on the cord.

Note on cleaning

Clean the cabinet of the projection TV with a dry soft cloth. To remove dust from the screen, wipe it gently with a soft cloth. Stubborn stains may be removed with a cloth slightly dampened with solution of mild soap and warm water. Never use strong solvents such as thinner or benzine for cleaning.

If the picture becomes dark after using the projection TV for a long period of time, it may be necessary to clean the inside of the projection TV. Consult qualified service personnel.

Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the projection TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- Avoid operating the projection TV at temperatures below 5° C (41° F).
- If the projection TV is transported directly from a cold to a warm location, or if the room temperature changes suddenly, the picture may be blurred or show poor color. In this case, please wait a few hours to let the moisture evaporate before turning on the projection TV.
- To obtain the best picture, do not expose the screen to direct illumination or direct sunlight. It is recommended to use spot lighting directed down from the ceiling or to cover the windows that face the screen with opaque drapery. It is desirable to install the projection TV in a room where the floor and walls are not of a reflective material.

Important Safeguards

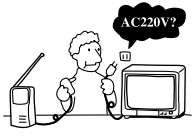
For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set, or described in the operating instructions or service manual.

WARNING

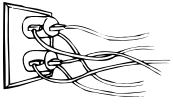
To guard against injury, the following basic safety precautions should be observed in the installation, use, and servicing of the set.

Use



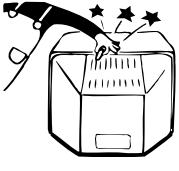
Power Sources — This set should be operated only from the type of power source indicated on the serial / model plate.
If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.

Grounding or Polarization — This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding).
Follow the instructions below:

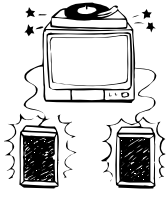


Overloading — Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.

Always turn the set off when it is not to be used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.

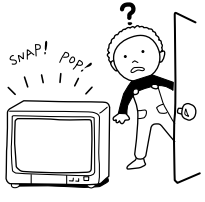


Object and Liquid Entry — Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



Attachments — Do not use attachments not recommended by the manufacturer, as they may cause hazards.

Cleaning — Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.



If a snapping or popping sound from a projection TV set is continuous or frequent while the projection TV is operating, unplug the projection TV and consult your dealer or service technician. It is normal for some projection TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.

(continued)

Important Safeguards (continued)

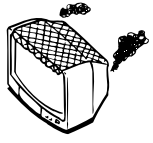
Installation

Water and Moisture — Do not use power-line operated sets near water—for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement or near a swimming pool, etc.

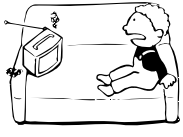
Accessories — Do not place the set on an unstable cart, stand, table or shelf. The set may fall, causing serious injury to a child or an adult, and serious damage to the set. Use only a cart or stand recommended by the manufacturer for the specific model of projection TV.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

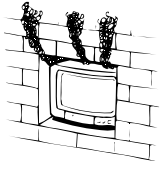
Ventilation — The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.



— Never cover the slots and openings with a cloth or other materials.

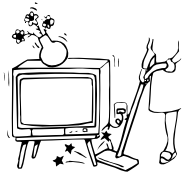


— Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.



— Never place the set in a confined space, such as a bookcase, or built-in cabinet unless proper ventilation is provided.

— Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.



Power-Cord Protection — Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.

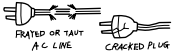
Antennas

Outdoor Antenna Grounding — If an outdoor antenna is installed, follow the precautions below.
An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.
WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.
Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.

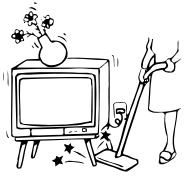
Lightning — For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

Damage Requiring Service — Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:



— When the power cord or plug is damaged or frayed.



— If liquid has been spilled into the set.

— If the set has been exposed to rain or water.

— If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.

— If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.

— When the set exhibits a distinct change in performance—this indicates a need for service.

Servicing — Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Replacement Parts — When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts.
Unauthorized substitutions may result in fire, electric shock, or other hazards.

Safety Check — Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify.

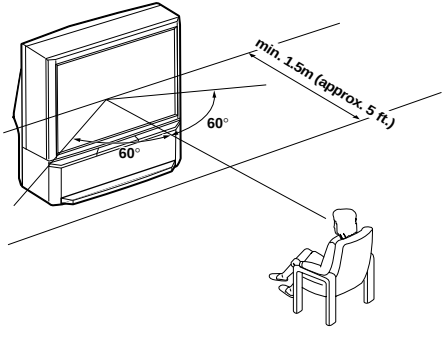
When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.

Carrying Your Projection TV

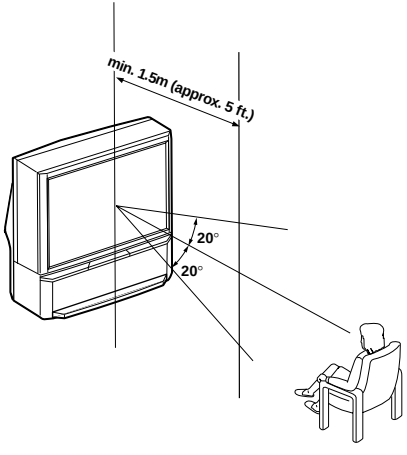
Carrying the projection TV requires three or more people.

Installing the Projection TV

Recommended viewing area (Horizontal)



Recommended viewing area (Vertical)



Connector Types

You may find it necessary to use some of the following connector types during set up.

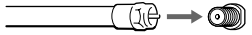
Coaxial cable

Standard TV cable and antenna cable

Plug Type

Push into connection.

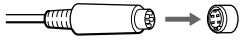
Screw-on Type



Screw into connection.

S Video cable

High quality video cable for enhanced picture quality



Align guides and push into connection.

Audio/Video cable

Push into connection.

Video - Yellow
Audio (Left) - White
Audio (Right) - Red

Some DVD Players are equipped with the following three video connectors.

Y - Green
P_B (C_B, C_b or B–Y) - Blue
P_R (C_R, C_r or R–Y) - Red

CONTROL S cable

Sony cable for CONTROL S connection. This feature is exclusive to Sony products and allow greater control of all Sony equipment.

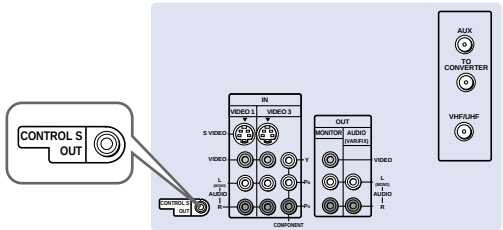
Push into connection.

Mini plug cable (not supplied)

About the CONTROL S OUT jack

To control other Sony equipment with the projection TV's remote control, connect the CONTROL S IN jack of the equipment to the CONTROL S OUT jack on the projection TV with the CONTROL S cable.

(Rear of projection TV)



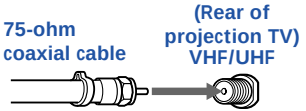
Making Connections

Connecting directly to a cable or an antenna

The connection you choose will depend on the cable found in your home. Newer homes will be equipped with standard coaxial cable (see **A**); older homes will probably have 300-ohm twin lead cable (see **B**); still other homes may contain both (see **C**).
Use 75-ohm coaxial cable for improved picture quality (see **A**).

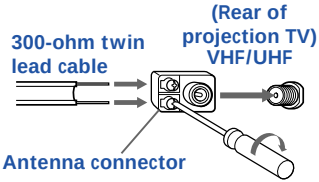
A

- VHF only
  or
- VHF/UHF
  or
- Cable



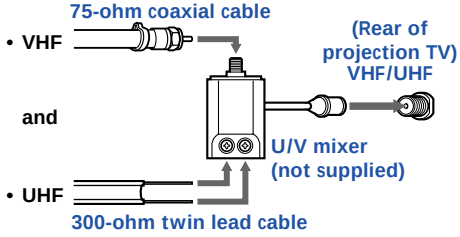
B

- VHF only
  or
- UHF only
  or
- VHF/UHF



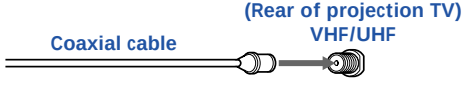
(continued)

C



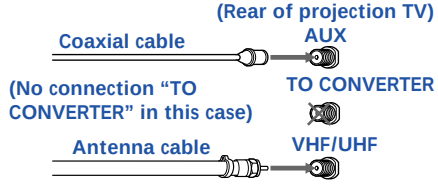
Cable or antenna

This is the simplest connection. Connection is made directly from the cable or antenna to the projection TV.



Cable and antenna

You may find it convenient to use the following set up if your cable provider does not feature local channels that you are able to receive using an antenna.

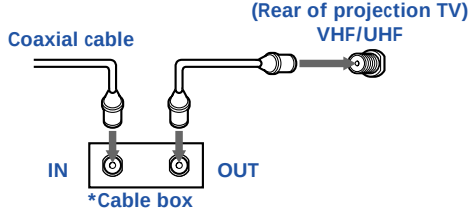


Select Cable or ANT mode by pressing ANT on the remote control.

Connecting a cable box

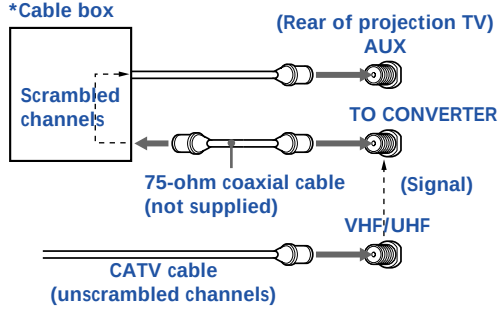
Some pay cable TV systems use scrambled or encoded signals that require a cable box* to view all channels.

Also, set "Cable" to "On" in the Channel Set Up menu (page 28).



Cable box and cable

Some pay cable TV systems use scrambled or encoded signals requiring a cable box* only for certain channels.



For this set up, you can switch between scrambled channels (through your cable box), and normal (CATV) channels by pressing ANT on your remote control.

Notes:

- You may be able to program your Sony remote control to operate your cable box. (see "Operating a Cable Box " on page 35)
- During PIP or Favorite Channel viewing, the AUX input can only be viewed in the main picture.

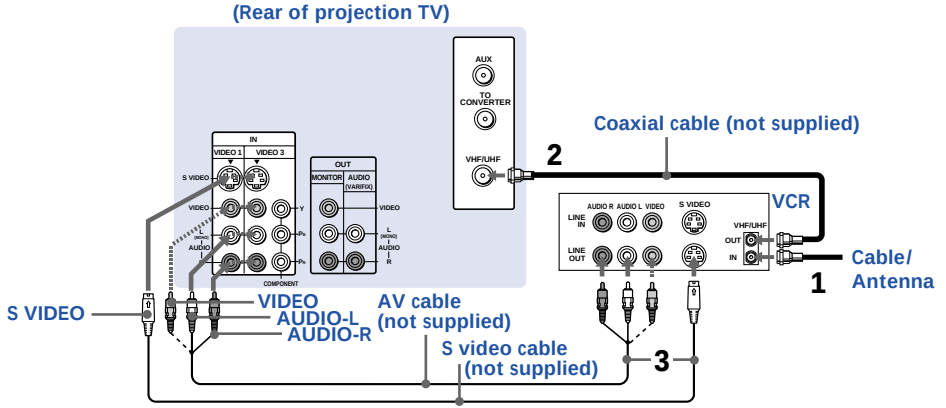
Connecting a cable TV system/ antenna to a VCR

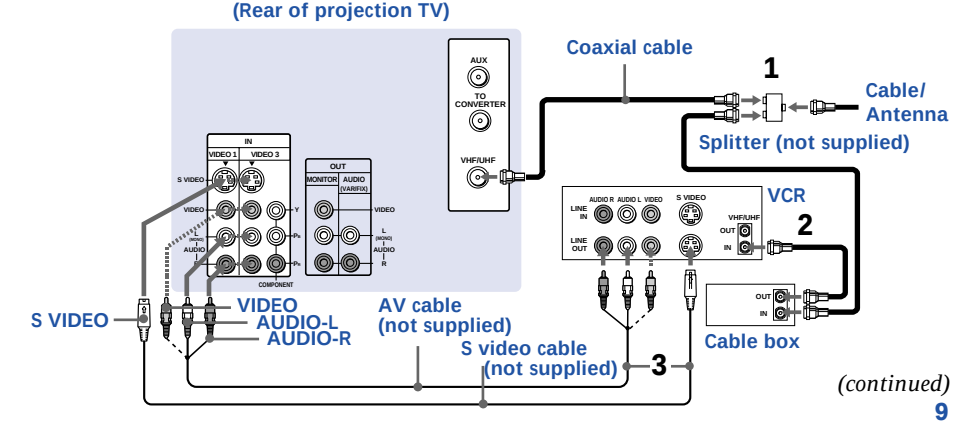
1. Attach the coaxial cable from the incoming cable connection or antenna to VHF/UHF IN on the VCR.
2. Using a coaxial cable, connect VHF/UHF OUT on the VCR to VHF/UHF on the projection TV.
3. Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right**).

Connecting a VCR and projection TV to a cable box

1. Connect the single (input) jack of the splitter to the incoming cable connection, and connect the other two (output) jacks (using the coaxial cable) to IN on the cable box and VHF/UHF on the projection TV.
2. Using a coaxial cable, connect OUT on the cable box to VHF/UHF IN on the VCR.
3. Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right**).

Disconnect all power sources before making any connections.





(continued)

Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

Note:

- To view scrambled channels through the cable box, select the video input which the cable box is connected to by pressing TV / VIDEO.

* If your VCR is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

** If you are connecting a monaural VCR, connect only the single audio output to the left (MONO) input on the projection TV.

Connecting a camcorder

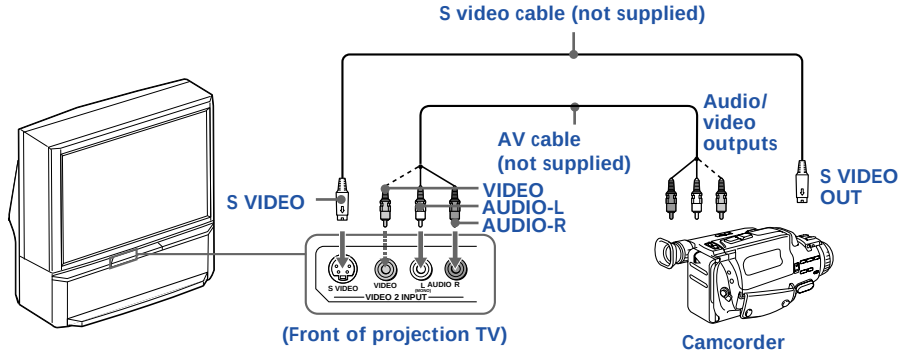
Use this connection to view a picture directly from your camcorder.

1 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the camcorder to AUDIO and S VIDEO IN inside the drop-down panel on the front of the projection TV (White-AUDIO Left, Red-AUDIO Right**).

2 Press VIDEO 2 to select the video inputs from a camcorder.

* If your camcorder is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

** If you are connecting a monaural camcorder, connect only the single audio output to the left (MONO) input on the projection TV.



Connecting two VCRs for tape editing

Disconnect all power sources before making any connections.

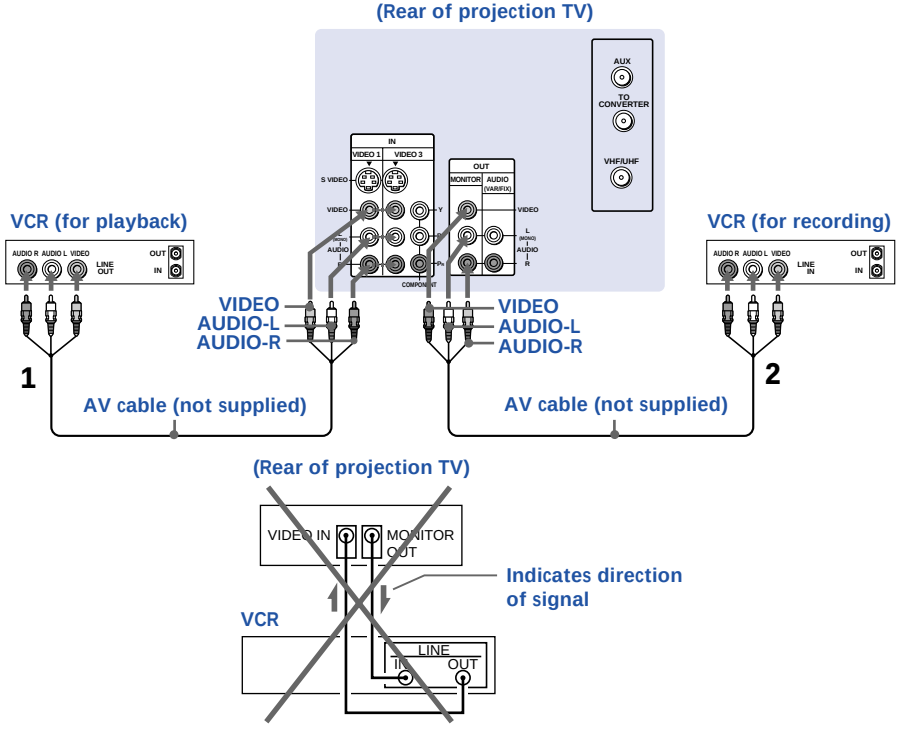
By connecting a second VCR to MONITOR OUT, you can record a program being played by the primary VCR to the second VCR or perform tape editing and dubbing.

1 Connect the VCR intended for playback using the connection instructions on page 6 of this manual.

2 Using an AUDIO / VIDEO cable, connect AUDIO and VIDEO IN on the VCR intended for recording to AUDIO and VIDEO OUT of MONITOR OUT on the projection TV.

Notes:

- Do not change the input signal while editing through MONITOR OUT.
- When connecting a single VCR to the projection TV: if VCR LINE OUT is connected to VIDEO IN on the projection TV, ***do not*** connect MONITOR OUT on the projection TV to the VCR LINE INPUT (see right). Doing so will cause program interference and other viewing problems.



Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

Connecting a DVD Player (Upper illustration)

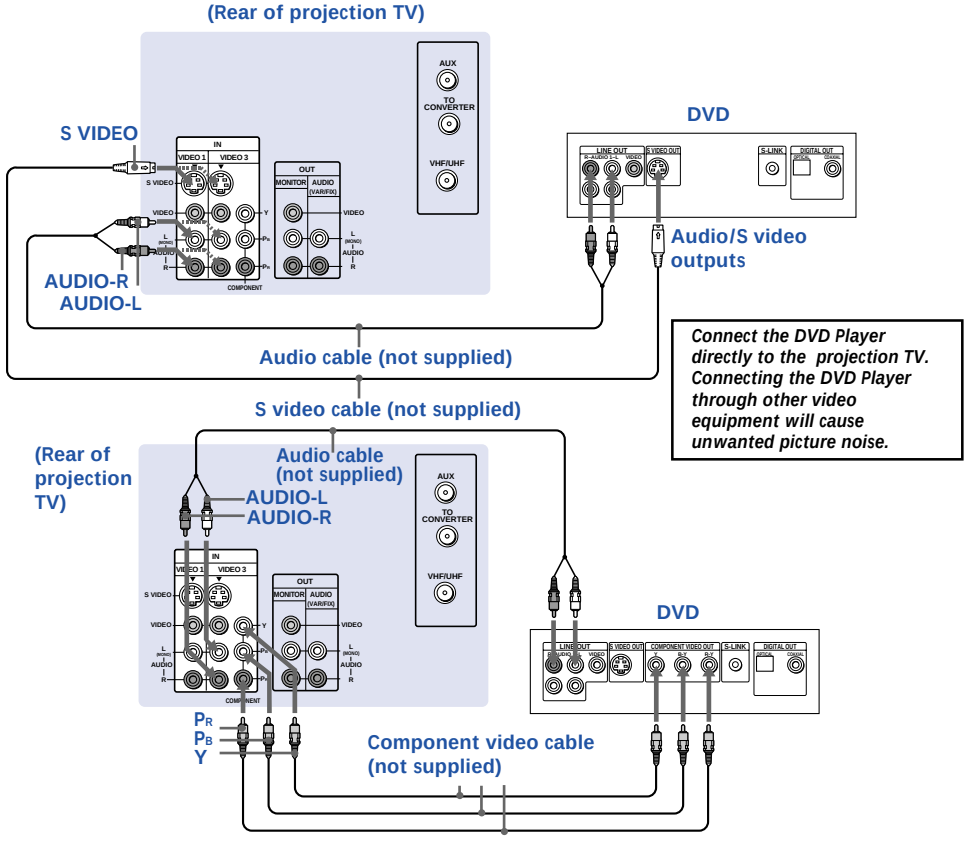
Using an AUDIO and S VIDEO cables, connect AUDIO and S VIDEO IN on the projection TV to AUDIO and S VIDEO OUT on the DVD Player (White-AUDIO Left, Red-AUDIO Right).

Connecting a DVD Player with component video output connectors (Lower illustration)

1. Using an AUDIO cable, connect AUDIO of LINE OUT on the DVD Player to AUDIO of VIDEO 3 IN on the projection TV (White-AUDIO Left, Red-AUDIO Right).
2. Using three yellow VIDEO cables, connect Y, P_B, and P_R of COMPONENT VIDEO OUT on the DVD Player to Y, P_B, and P_R of VIDEO 3 IN on the projection TV.

Note:

- Some DVD Player terminals may be labeled differently. If so, connect as follows:
  Connect Y (green) to Y.
  Connect P_B (blue) to C_B, C_b or B-Y.
  Connect P_R (red) to C_R, C_r or R-Y.



Connecting an audio system

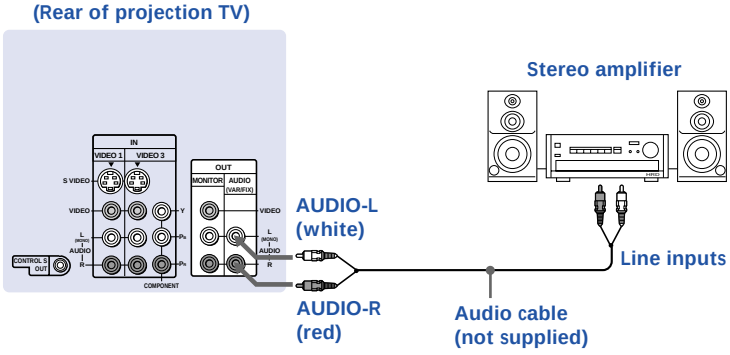
For more dynamic sound, connect an audio system to the projection TV.

1. Using an AUDIO cable, connect AUDIO (VAR/FIX) OUT on the projection TV to one of the unused Line inputs (e.g. Tape-2, AUX1, etc.) on the stereo.
2. Set the stereo to the chosen Line input and use the Audio menu to set the audio output and switch the projection TV's speakers off. (see "Audio Out" and "Speaker" on page 25)

Note:

- You can adjust VOLUME, "Bass," "Treble," "Balance," "Effect," and "Auto Stereo," or select bilingual mode with the supplied remote control. The control items except VOLUME can be adjusted only when "Audio Out" is set to "Variable" in the Audio menu. (see "Audio Out" on page 25)

Disconnect all power sources before making any connections.



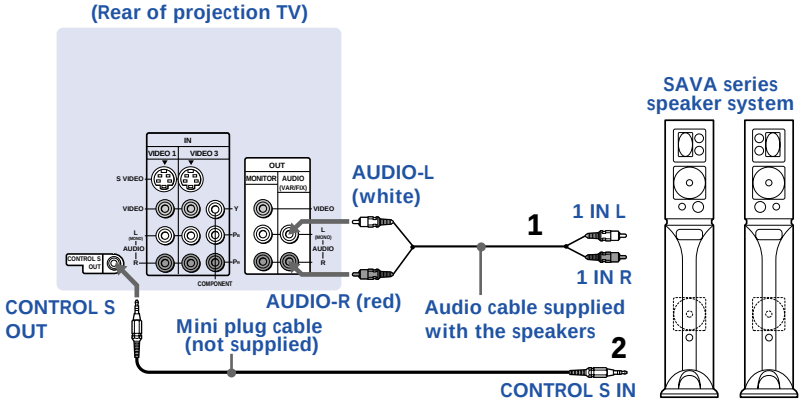
Disconnect all power sources before making any connections.

Connecting a Sony SAVA series speaker system

Use this connection to control the speaker's Dolby* Pro Logic surround system and super woofer mode with the remote control. (see "SAVA SP Control" on page 25)

1 Using the AUDIO cable supplied with the speaker to AUDIO (VAR/FIX) OUT on the projection TV.

2 Using the CONTROL S cable, connect CONTROL S IN on the speaker to CONTROL S OUT on the projection TV.



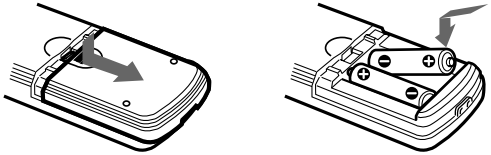
* Manufactured under license from Dolby Laboratories Licensing Corporation.

DOLBY, the double-D symbol ⧈ and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

Using the Remote Control

Inserting the batteries

Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the remote control's battery compartment.



Notes:

- Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.
- Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater or where the humidity is high.
- Your remote control can be programmed to operate most video equipment. (see "Operating Video Equipment" on page 33)

Setting Up the Projection TV Automatically

The AUTO SET UP feature will allow you to set the on-screen language and set all receivable channels.

The AUTO SET UP feature does not apply for installations that use a cable box for all channel selection.

You can also set up the projection TV manually. (see "Using the Channel Set Up menu" on pages 27 and 28)

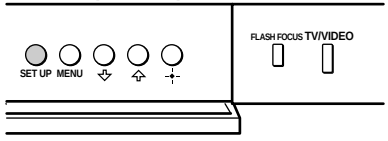
Notes:

- Before you perform AUTO SET UP again, make sure that the input from ANT (not AUX) is selected by pressing ANT until "AUX" does not appear next to the channel number.
- Perform this function during the day, with the antenna and / or cable properly connected, to ensure that all available channels will be broadcasting and receivable.
- When you perform AUTO SET UP, all the settings in the Video, and Audio menus are reset to the factory settings.

Using the buttons on the front panel of the projection TV:

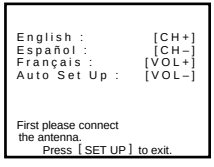
Front panel:

Inside the drop-down panel:



1 Prees ON / OFF to turn on the projection TV.

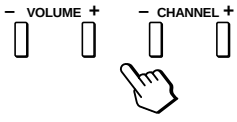
2 Press SET UP inside the drop-down panel.
The AUTO SET UP screen appears.

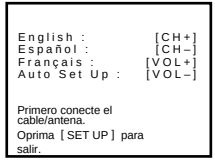


(continued)

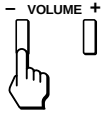
3 Press CHANNEL + to select English, CHANNEL – to select Español or VOLUME + to select Français.

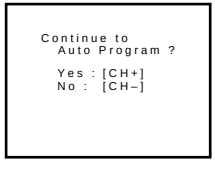
The screen will change to reflect your choice.



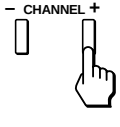


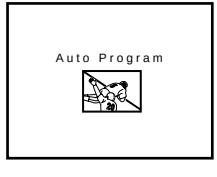
4 Press VOLUME – to continue.





5 Press CHANNEL + to preset channels automatically.





"Auto Program" appears and the projection TV starts scanning and presetting channels automatically. While scanning, the received channel will be displayed on the sub screen. When all the receivable channels are stored, the lowest numbered channel is displayed.

To perform AUTO SET UP again

Press SET UP inside the drop-down panel on the projection TV and perform steps 3-5 above.

Press SET UP again to exit.

Adjusting the Convergence Automatically (FLASH FOCUS)

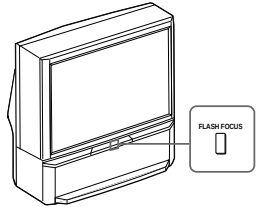
The projection tube image appears on the screen in three layers (red, green and blue). If they do not converge, the color is poor and the picture blurs.

Before you use your projection TV, be sure to adjust the convergence.

The FLASH FOCUS feature allows you to adjust the convergence automatically.

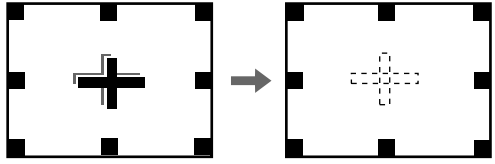
Tips

- *It is recommended to perform FLASH FOCUS about 30 minutes after the projection TV is first turned on.*
- *You can also perform FLASH FOCUS using the Set Up menu on page 32.*



Press FLASH FOCUS.

The cross pattern appears and FLASH FOCUS begins to work. The adjustment is completed when the cross pattern becomes white.



Note:

- FLASH FOCUS is canceled if you perform any other function while FLASH FOCUS is working.

Watching the TV

Many TV features can be accessed directly through the remote control. The following chart will explain the function of some buttons found on your remote control.

Using the White Labeled Buttons for Projection TV Operations	
TV (FUNCTION)	Activates the remote control for use with the projection TV.
TV POWER	Turns the projection TV on and off. If a video input indication (e.g., VIDEO 1, VIDEO 2) appears on the screen, press TV/VIDEO until a channel number appears.
0 - 9 and ENTER	Use for direct channel selection. Press 0-9 to select a channel (for example, to select channel 10, press 1 and 0). The channel will change after 2 seconds, or you can press ENTER for immediate selection.
CH +/–	Press to scan through the channels (+ up or – down). **Speed Surf** **1** Press and hold CH + or – to change the channel number rapidly. **2** Release to display the desired channel.
VOL +/–	Press to adjust the volume (+ up or – down).
MUTING	Press to mute the sound. “Muting” will appear on the screen and will dim three seconds later. To restore sound, press again or press VOL +.
TV/VIDEO	Press repeatedly to scroll through available video inputs: **TV, VIDEO 1, VIDEO 2** and **VIDEO 3.** If you select “Skip” as a “Video Label” in the Set Up menu, your projection TV will skip the video input you selected. (see “Video Label” on page 32)

(continued)

PICTURE MODE

Press PICTURE MODE repeatedly to directly choose one of five different video modes that best suits the program you are watching.

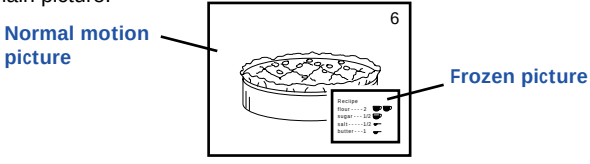
Vivid: Select for enhanced picture contrast and sharpness.

Standard: Select to display a standard picture for normal viewing environments.

Movie: Select to display a finely detailed picture for low light environments.

Personal 1, Personal 2: Select to customize the “Picture Adjustment” of the Video menu according to your personal preference.

When you select “Movie,” “Personal 1” or “Personal 2,” you can also perform the “Picture Adjustment” (such as “Brightness,” “Color,” etc.) to suit your taste. For details, see “Mode” on page 23.

Using the White Labeled Buttons for Projection TV Operations	
JUMP	Press to alternate or *jump* back and forth between two channels. The projection TV will jump between the current channel and the last channel selected using the 0-9 buttons.
FREEZE *(yellow labeled button)*	This is useful when you need to copy down information that appears on the TV's screen. Press to *freeze* the desired picture. The frozen picture is displayed in the window picture while viewing the normal picture of the current channel in the main picture.  To change the location of the window picture, press ↑, ↓, ← or →. Press FREEZE again to display the normal picture.
DISPLAY	Press to display the channel number, current time, channel caption (if set), and bilingual mode. Bilingual mode indication disappears and the other indications dim three seconds later. To turn the display off, press DISPLAY again.
CC	Press repeatedly to scroll through available displays: **XDS (Extended Data Service)** Displays a network name, program name, program type, program length, program description, call letters and time of the show if the broadcaster offers this service. **Caption Vision** Displayed on the screen if the broadcaster offers this service. (see "Caption Vision" on page 31) **No display** "Off" appears and the display is canceled.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Using the White Labeled Buttons for Projection TV Operations

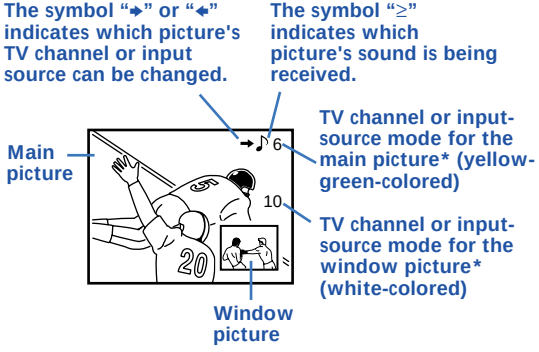
SLEEP	Press repeatedly until the projection TV displays the approximate time in minutes (30, 60, or 90) that you want the projection TV to remain on before shutting off automatically. Cancel by pressing until “Sleep Off” appears.
ANT *(AUX input)*	Press to change between the VHF/UHF input and the AUX input. (for detailed connection information, see “Cable and antenna” or “Cable box and cable” on page 8)
BILINGUAL	Press repeatedly to select a sound options when a bilingual program is received: Each time you press this button, the sound option will change (Main → Main+Sub → Sub). **Main:** Select to listen to the main sound from both left and right speakers. **Main+Sub:** Select to listen to the main sound from the left speaker, and sub sound from the right speaker. **Sub:** Select to listen to the sub sound from both left and right speakers. If there is noise in the stereo program, set “Auto Stereo” of the Audio menu to “Off”. (see “Auto Stereo” on page 24)
♪	Press to select an audio option: **Simulated, Surround, BBE** and **Effect Off.** (see “Effect” on page 24)
TV/VTR	Press when you are finished using a VCR and you want to switch to the TV input. The VCR power will remain on.
SYSTEM OFF	Press to turn off the projection TV and all other Sony equipment.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Watching Two Programs at One Time — PIP

The Picture-in-Picture (PIP) feature allows you to view two channels simultaneously, one in the full size "main" picture and one in a smaller "window" picture.

You can move the window picture to any location on the screen.


The symbol "➔" or "➔" indicates which picture's TV channel or input source can be changed.
The symbol "≥" indicates which picture's sound is being received.
TV channel or input-source mode for the main picture* (yellow-green-colored)
TV channel or input-source mode for the window picture* (white-colored)
Main picture
Window picture
6
10
20

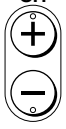
* It will dim in about 3 seconds.

Tip

If you press RESET in PIP mode, the window picture will move to the bottom right (factory-preset location).

Using the Yellow Labeled Buttons for PIP Operations	
PIP	Press to display a window picture. Each time you press this button, the picture size will change (1/9 → 1/16 → no display). To close the window picture, press PIP repeatedly until it disappears.
POSITION or	Press repeatedly to change the location of the window picture (counterclockwise) around the main picture. You can also change the location by pressing the ↑, ↓, ← or → button. The window picture moves in the direction of the arrow indicated on the pressed button.
ACTIVE	Press to select either the main or window picture in order to change the TV channel or video source using the white labeled buttons below. The symbol "➔" (or "➔") will appear to indicate which picture's channel or input mode can be changed.
TV/VIDEO *(white labeled button)*	Press repeatedly to scroll through the available video inputs for the picture on which the symbol "➔" (or "➔") is displayed. (see "TV/VIDEO" on page 17)

Using the Yellow Labeled Buttons for PIP Operations

CH  or **0** - **9** or **JUMP** and ENTER *(white labeled button)*	Press to select the TV channel on which the symbol "➔" is displayed. (for details, see "Watching the TV" on page 17) **Speed Surf** **1** Press and hold CH + or – to change the channel number rapidly. **2** Release to display the desired channel.
ANT *(white labeled button)*	Press to change between the VHF/UHF input and the AUX input for the picture on which the symbol "➔" (or "➔") is displayed.
AUDIO	Press to alternate sound between the main picture and the window picture. The symbol " ♪ " will appear for a few seconds to indicate which picture's sound is being received.
FREEZE	This is useful when you need to copy down information of the main picture. Press to freeze the desired scene in the main picture. The frozen picture is displayed in the window picture while viewing the normal picture in the main picture. The window picture size is automatically changed to 1/9 if it was 1/16. Press again to resume normal PIP viewing.
SWAP	Press to switch the audio and video of the main picture and the window picture. Each time you press SWAP, the picture and sound of the two will be exchanged.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Note:

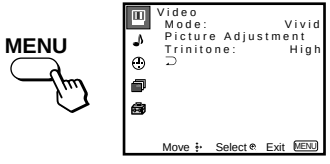
- If one of the pictures received through PIP is snowy, the entire screen may become unstable. In this case, erase the snowy channel. (see "Channel Skip / Add" on page 28)

Learning Menu Selection

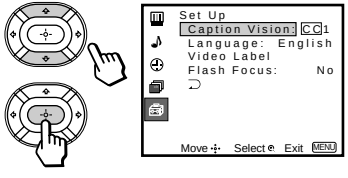
Use the MENU button to access a menu and use the ↑, ↓, ←, → and ⊕ buttons to alter the settings. Use the following example to learn how to modify settings.

1 Press the MENU button.

The main menu appears.

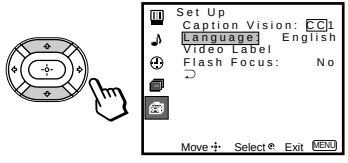


2 Press ↑ or ↓ to highlight the desired menu and press ⊕ to activate it.



You may also press → to activate your selection.

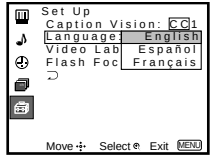
3 Press ↑ or ↓ to highlight the desired option.



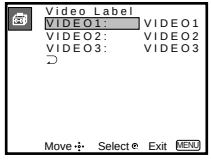
4 Press ⊕.

Options for your selection (Pop-up menu or Adjusting menu) will be displayed.

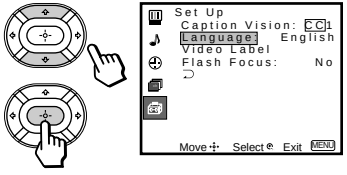
Pop-up menu



Adjusting menu



5 Press ↑ or ↓ to make your selection and press ⊕ to activate it.
The previous screen will reappear.



Some adjustment menus may require further operations. For details, see each menu option.

To return to the previous screen (except for the slider adjustment menus), choose "↩" at the bottom of the menu and press ⊕ or ←.

6 Once you have completed all menu corrections, press MENU to exit the menu screens.

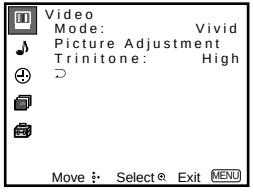
To exit from the menus at any time

Press MENU.

Tip

You can also use the MENU, ↑/↓ and ⊕ buttons inside the front drop-down panel of the projection TV for the menu selection.

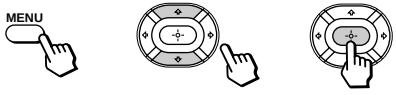
Using the Video Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

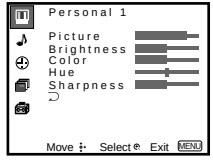
To select the Video menu:

Display → Highlight → Select

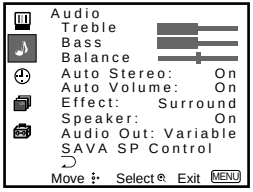


To restore the factory settings

Press RESET on the remote control while the Video menu is selected. To restore each “Mode” to the factory setting, press RESET after selecting the mode to be reset.

Mode *Customized picture viewing*	You can choose one of five different video modes that best suits the program you are watching. You can also perform the “Picture Adjustment” (such as “Brightness,” “Color,” etc.) for “Movie,” “Personal 1” or “Personal 2” to suit your taste. **Vivid:** Select for enhanced picture contrast and sharpness. **Standard:** Select to display a standard picture for normal viewing environments. **Movie:** Select to display a finely detailed picture for low light environments. **Personal 1, Personal 2:** Select to customize the “Picture Adjustment” of the Video menu according to your personal preference. *Press PICTURE MODE on the remote control for direct selection of a “Mode” setting.*
Picture Adjustment *Picture adjustment*	First select “Movie,” “Personal 1” or “Personal 2” from “Mode,” then highlight the desired option using the ▲ or ▼ button and press ⊕ to display the adjusting slider of the selected option. **Picture:** Adjust slider right (up) to increase picture contrast; left (down) to decrease it. **Brightness:** Adjust slider right (up) to brighten the picture; left (down) to darken it. **Color:** Adjust slider right (up) to increase color intensity; left (down) to decrease it. **Hue:** Adjust slider right (up) to increase the green tones; left (down) to increase the red tones. **Sharpness:** Adjust slider right (up) to sharpen the picture; left (down) to soften it. 
Trinitone *White intensity adjustment*	**High:** Select to give the white colors a blueish tint. **Medium:** Select to give the white colors a neutral tint. **NTSC Standard:** Select to give the white colors a reddish tint.

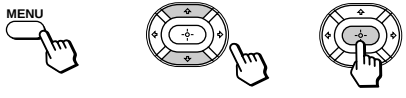
♪ Using the Audio Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

To select the Audio ♪ menu:

Display → Highlight ♪ → Select



To restore the factory settings

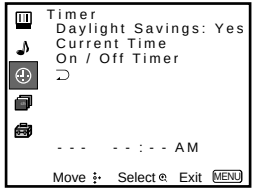
Press RESET on the remote control while the Audio menu is selected.

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word “BBE” and the BBE symbol are the trademarks of BBE Sound, Inc.

Treble *Sound adjustment*	Adjust slider right (up) to increase high pitched sounds. Adjust slider left (down) to decrease high pitched sounds.
Bass *Sound adjustment*	Adjust slider right (up) to increase low pitched sounds. Adjust slider left (down) to decrease low pitched sounds.
Balance *Sound adjustment*	Adjust slider right (up) to emphasize right speaker volume. Adjust slider left (down) to emphasize left speaker volume.
Auto Stereo *Enjoy stereo programs automatically*	**On:** Select for stereo reception when viewing a program broadcast in stereo. **Off:** Select for mono reception. (use to reduce noise during stereo broadcasts)
Auto Volume *Adjust the sound level.*	**On:** Sound output coming from TV speakers have the volume level equalized for all channel audio inputs when broadcasts have different sound transmission levels. **Off:** Sound output coming from the TV speakers varies according to the received channel.
Effect *Customizes surround sound effects based on the program’s audio type.*	“Effect” can only be set when “Speaker” is set to “On” or “Off.” **Simulated:** Adds a surround-like effect to mono programs. **Surround:** Simulates sound with the atmosphere of a movie theater or a concert hall for stereo programs. **BBE*:** Centers the sound intensity to the front, creating an effect as if you were seated in front of an orchestra. **Off:** Normal stereo or mono reception. ***Quick Effect access:*** *Press ♪ on the remote control to cycle through the “Effect” options as follows: Simulated → Surround → BBE → Effect Off.*

Speaker *Custom selection of audio output source*	**On:** Select to listen to the sound from the projection TV speakers alone. **Off:** Select to turn off the projection TV speakers and listen to the projection TV's sound only through an external audio system's speakers. **SAVA SP:** Select to turn off the projection TV speakers and listen to the projection TV's sound only through the Sony SAVA series speaker system. You can adjust volume, muting, "Surround Mode," and "Super Woofer Mode" with the projection TV's remote control. (see "SAVA SP Control" below)
Audio Out *Easy control of volume adjustment*	"Audio Out" can only be set when "Speaker" is set to "Off." **Fixed:** Sound output is held at a fixed level through the audio system. Use the AV receiver's remote control to adjust the volume. **Variable:** Sound output varies according to the TV settings. Useful when you want to use your remote control to control the output of a separate audio system.
SAVA SP Control *Controls Sony SAVA speaker's mode.*	"SAVA SP Control" can only be set when Sony SAVA speaker system is connected to the AUDIO (VAR/FIX) OUT connectors and "Speaker" is set to "SAVA SP." (see "Speaker" above) You can also adjust the SAVA speaker's volume using VOL +/– of the projection TV's remote control. **Surround Mode:** Select to activate the SAVA Speaker's surround mode. **Super Woofer Mode:** Select to activate the SAVA Speaker's super woofer mode.

Using the Timer Menu

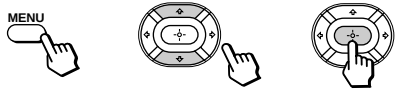


After setting the clock you can use the timer to turn the projection TV on and off.

For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

To select the Timer menu:

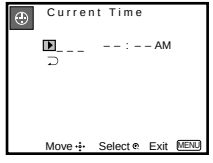
Display → Highlight → Select

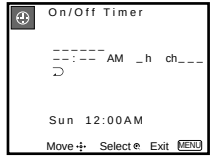


Tip

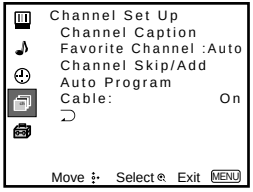
Set daylight saving time before setting the clock. Any loss of power will cause these settings to be erased.

Daylight Savings *Automatically adjusts the time.*	**Spring:** Select **Yes** to compensate for Daylight Saving Time. The current time automatically moves ahead one hour. **Fall:** Select **No** at the end of Daylight Saving Time. The current time moves back one hour.
Current Time *Necessary for the Timer.*	**1** Press ⊕, then press ▲ or ▼ until the current day (Sun-Sat) is displayed, and press ⊕. **2** Press ▲ or ▼ until the current hour (1-12) and AM/PM is displayed, and press ⊕. **3** Press ▲ or ▼ until the current minute (00-59) is displayed, and press ⊕. The clock has now started. Press MENU to exit.
On/Off Timer *Wake up or scheduled viewing.*	**1** Press ▲ or ▼ until the desired day or range of days (Every Sun-Sat, Every Mon-Fri, Sunday, Monday, ... Saturday, Every Sunday, ... Every Saturday) is displayed, and press ⊕. **2** Press ▲ or ▼ until the time (hours and minutes) that you want the projection TV to remain on is displayed, and then press ⊕. **3** Press ▲ or ▼ to set the time duration (maximum of 6 hours) and press ⊕. **4** Press ▲ or ▼ to select the desired channel and press ⊕. The timer is now set. The TIMER/STAND BY indicator on your projection TV will be lit. Press MENU to exit. To cancel your timer setting, press RESET while in the On/Off Timer window. Performing Auto Program will erase all Timer settings.





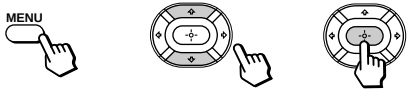
Using the Channel Set Up Menu

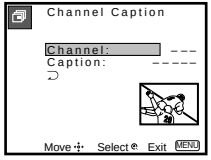


For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

To select the Channel Set Up menu:

Display → Highlight → Select

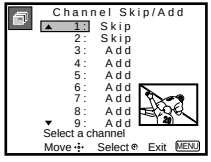


Channel Caption *Easy recognition of the channel you are watching*	You can add a caption for up to 32 channels of VHF/UHF input. With the Channel Caption window open: **1** Press ⊕ and then press ▲ or ▼ to select the desired channel. You can view the channel that is selected with the Channel Caption menu in the sub screen. **2** Press ⊕. **3** Press ▲ or ▼ to display the first letter or number of the caption and press ⊕ to select it. Repeat until up to five digits are selected. **4** Press ⊕. *To erase a caption, press RESET.* 
Favorite Channel *User’s favorite channels*	The Favorite Channel feature enables easy access to the eight channels that you preset (or the last channel that you were watching). (for details on how to set up this feature, see “Setting and Selecting Favorite Channel” on page 29)

(continued)

Adjusting Your SET UP (menus) (continued)

Channel Skip/Add *Skips unnecessary channels.*	After AUTO SET UP, you can erase unnecessary channels from the channel preset memory. With the Channel Skip/Add window open: **1** Press ↑ or ↓ to select the desired channel. You can view the channel that is selected with the Channel Skip/Add menu in the sub screen. You can also use CH +/– or 0–9 and ENTER buttons. **2** Press ⊕. **3** Press ↑ or ↓ to select **Skip**, and press ⊕. The selected channel will be erased. If you want to re-enter the skipped channel, follow the steps above and select **Add**.
Auto Program *Automatic channel presetting*	Select **Yes** to signal the projection TV to automatically program all receivable channels. When all the receivable channels are stored, the lowest numbered channel is displayed. Select **No** to cancel Auto Program.
Cable *Cable system setting*	Select **On** if your projection TV is connected to a cable system. Select **Off** if your projection TV is connected to an antenna.



Setting and Selecting Favorite Channel

The Favorite Channel feature of your projection TV enables easy access to the eight channels that you preset (or the last channel that you were watching).

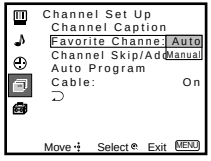
Your Favorite Channel options can be set automatically or manually.

The factory setting for “Favorite Channel” is “Auto.”

When “Favorite Channel” is set to “Auto,” the last eight channels selected with the 0–9 buttons will be set as Favorite Channel options. If you want to input your own selections as Favorite Channel settings, set to “Manual.”

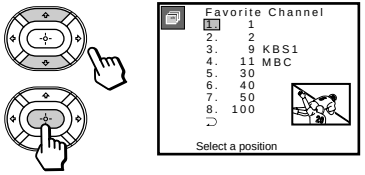
Setting Favorite Channel manually

1 Select “Favorite Channel” from the Channel Set Up menu. (see page 27)

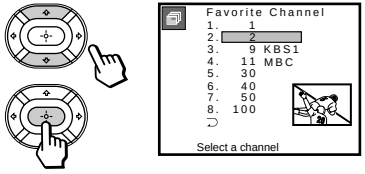


2 Press ↑ or ↓ to select “Manual” and press ⊕.

The Favorite Channel menu will appear. If you set Channel Caption names (e.g. KBS1, MBC), they will also be displayed. (see “Channel Caption” on page 27)

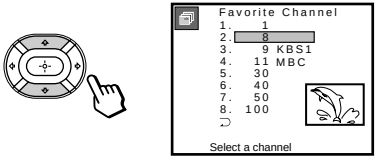


3 Press ↑ or ↓ to select a position (1–8), and press ⊕.



4 Press ↑ or ↓ to select a channel and press ⊕.

You have now selected a favorite channel.



5 Use ↑ and ↓ to program other favorite channels. (Follow steps 3 and 4.)

6 Press MENU when you have finished.

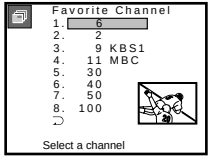
Your favorite channels are now ready for use.

Changing Favorite Channel choices

You have the option of returning to the Favorite Channel screen to adjust any of your favorite channel choices.

Simply proceed as described in “Setting Favorite Channel manually” (skip step 2 if “Manual” is already selected).

When you reach step 3, select the position you want to change and press ⊹. Press ↑ or ↓ to select a new channel.



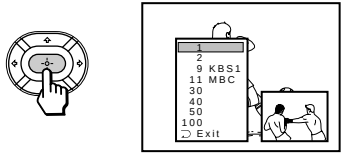
Press MENU when you are done.

Using Favorite Channel

You can use the Favorite Channel feature to directly select the channel you want to watch.

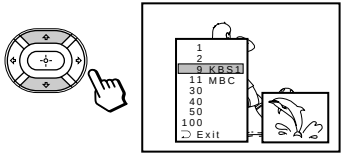
1 Press ⊹ once.

The favorite channel menu and a window picture will be superimposed over the current channel. The window picture displays the channel selected from the menu.



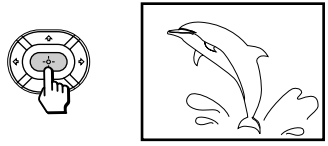
2 Press ↑ or ↓ to select the channel that you wish to view from the menu.

The picture of the selected channel will be displayed in the window picture.



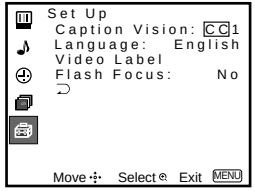
3 Press ⊹ to select the channel.

The selected channel will be displayed for normal viewing.



To cancel the favorite channel menu before selecting a channel, press ↑ or ↓ to select “Exit” at the bottom of the menu and press ⊹.

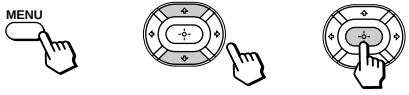
Using the Set Up Menu



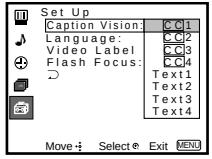
For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

To select the Set Up menu:

Display → Highlight → Select

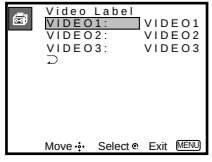
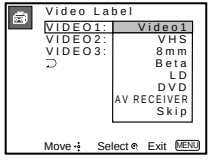


Caption Vision *Television closed caption display*	Some programs are broadcast with Caption Vision. To display “Caption Vision,” select CC1, CC2, CC3, CC4, TEXT1, TEXT2, TEXT3 or TEXT4 from the menu. Then press the CC button until “Caption Vision” is displayed. CC1, CC2, CC3 or CC4 displays a printed version of the dialogue or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1, TEXT2, TEXT3, or TEXT4 displays network/station information presented using either half or the whole screen. **Notes:** • Poor reception of TV programs can cause errors in Caption Vision and XDS. Captions may appear with a white box or other errors instead of the intended text. • XDS, Caption Vision, and the status display cannot be used at the same time.
Language *Preferred language*	Select from available languages (**English, Español** or **Français**) to display all menus in your language of choice.



(continued)

Adjusting Your SET UP (menus) (continued)

Video Label *Easy recognition of connected equipment (e.g. DVD, VHS, etc.)*	This feature allows you to label each input mode so that you can easily identify the connected equipment (e.g. you can label VIDEO 1 IN as VHS).  With the Video Label window open: **1** Press ▲ or ▼ to select the input mode you want to label and press ⊕. **2** Press ▲ or ▼ to select the label and press ⊕.  **Video Label Options:** **VIDEO 1**: VIDEO 1, VHS, 8mm, Beta, LD, DVD, AV RECEIVER, Skip **VIDEO 2/3**: VIDEO 2/VIDEO 3, VHS, 8mm, Beta, LD, DVD, Skip *If you select "Skip," your projection TV will skip this connection when you scan through video sources using the TV/VIDEO button.*
Flash Focus *Automatic convergence adjustment*	Select **Yes** and press ⊕ to start Flash Focus adjustment. When the adjustment is completed, the cross pattern on the screen becomes white. (for details, see page 16) Select **No** to cancel Flash Focus.

Setting the Manufacturer's Code

You can use the supplied remote control to operate Sony or non-Sony video equipment that has an infrared sensor.

Press CODE SET, DVD / VTR (FUNCTION), and the 0-9 buttons to enter the manufacturer's code number (see the following chart), then press ENTER.

For example, to operate a Sony 8mm VCR:

If the remote control doesn't work

- See the tips on page 35.

VCR manufacturer code numbers

Manufacturer	Code
Sony (VHS VCR)	301
Sony (8mm VCR)	302
Sony (Beta, ED Beta, VCRs)	303
Aiwa	338
Admiral (M. Ward)	327
Audio Dynamic	314, 337
Bell & Howell (M. Ward)	330
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Curtis Mathis	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	340, 339, 322
Goldstar	332
Hitachi	306, 304, 305, 338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Optimus	327
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA/PROSCAN	304, 305, 308, 309, 311, 329, 312, 313, 310
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Signature 2000 (M. Ward)	338, 327
Sylvania	308, 309, 338, 310
Symphonic	338
SV2000	338
Tashiro	332
Tatung	314, 336, 337
Teac	314, 336, 338, 337
Technics	309, 308
Teknica	338
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	330, 314, 336, 337
Zenith	331

MDP manufacturer code numbers

Manufacturer	Code
Sony	701
Panasonic	704, 710
Mistubishi	702

DVD Player manufacturer code numbers

Manufacturer	Code
Sony	751
Panasonic	753
Pioneer	752
RCA	755
Toshiba	754

Tips

- *In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote control. In this case, please use the equipment's own remote control.*
- *When you remove the batteries, the code number may revert to the factory setting.*

To operate video equipment

1. Press DVD / VTR (FUNCTION).
2. Use the VCR / DVD / MDP operation buttons indicated in the following tables.

Operating a VCR using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To select a channel	Press the 0 – 9 buttons.
To change channels	Press CH +/–.
To record	Press ► while pressing ●.
To play	Press ►.
To stop	Press ■.
To fast forward	Press ►►.
To rewind the tape	Press ◄◄.
To pause	Press ❚❚. Press again to resume normal playback.
To search the picture forward or backward	Press ►► or ◄◄ during playback. Release to resume normal playback.
To change input mode	Press TV/VTR.

Operating an MDP using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To play	Press ►.
To stop	Press ■.
To pause	Press ❚❚. Press again to resume normal playback.
To search the picture forward or backward	Press ►► or ◄◄ during playback. Release to resume normal playback.
To search a chapter forward or backward	Press CH +/–.

Operating a DVD Player using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To play	Press ►.
To stop	Press ■.
To pause	Press ❚❚. Press again to resume normal playback.
To step through different tracks of an audio disc	Press ►► to step forward or ◄◄ to step backward.
To step through different chapters of a video disc	Press CH + to step forward or CH – to step backward.
To select tracks directly	Press 0-9 buttons.
To display the menu (Set up)	Press MENU.

Setting the Manufacturer's Code

You can program the supplied remote control to operate a cable box.

Press CODE SET, CABLE (FUNCTION), and the 0-9 buttons to enter the manufacturer's code number (see the following chart), then press ENTER.

For example, to operate a Pioneer cable box:

Manufacturer code numbers (cable box)

Manufacturer	Code
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G.I	201, 202, 203, 204, 205, 222, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

To operate the cable box

1. Press CABLE (POWER) [Green Button] to turn on / off the cable box.
2. Press CABLE (FUNCTION).
3. For other operations, refer to the operating instructions that come with the equipment.

If the remote control doesn't work

- Try repeating the set up procedures using the other codes listed for your equipment.

To operate the projection TV

Press TV (FUNCTION). Then use the projection TV control buttons to control the projection TV.

Tips

- *If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.*
- *If you enter a new code number, the code number you previously entered at that setting is erased.*
- *In some rare cases, you may not be able to operate your equipment with the supplied remote control. In this case, use the equipment's own remote control unit.*
- *Whenever you remove the batteries — to replace them, for example — if too much time is taken, the code numbers may revert to the factory setting and must be reset.*

Troubleshooting

If, after reading the following instructions, you have additional questions related to the use of your Sony projection TV, please contact your nearest Sony dealer.

The picture turns off and the TIMER/STAND BY indicator on the front panel flashes (self-diagnosis function)	• The projection TV is equipped with a self-diagnosis function. If there is a problem with your projection TV, the TIMER/STAND BY indicator on the front panel will flash repeatedly. Counting the number of flashes helps you inform qualified Sony personnel of the projection TV's condition. • Press ON/OFF on the projection TV to turn it off, then inform qualified Sony personnel of the number of flashes.
No picture (screen not lit), no sound	• Make sure the power cord is plugged in. • Operate with the buttons on both the projection TV and the remote control. • Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV, and when watching video tapes, set to VIDEO 1, 2, or 3. • Try another channel. *It could be station trouble.* • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 16)
Remote control does not operate	• Batteries could be weak. Replace the batteries. • Press TV (FUNCTION) when operating your projection TV. • Make sure the projection TV's power cord is connected securely to the wall outlet. • Locate the projection TV at least 3-4 feet away from fluorescent lights. • Check the polarity of the batteries.
Dark, poor or no picture (screen lit), good sound	• Adjust "Picture" in the Video menu. (see "Picture Adjustment" on page 23) • Adjust "Brightness" in the Video menu. (see "Picture Adjustment" on page 23) • Check antenna/cable connections. • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 16) • Adjust the convergence again using the FLASH FOCUS button. (see "Adjusting the Convergence Automatically (FLASH FOCUS)" on page 16)
Good picture, no sound	• Press MUTING so that "Muting" disappears from the screen. (see "MUTING" on page 17) • Press BILINGUAL on the remote control to change the bilingual modes. (see "BILINGUAL" on page 19) • Make sure "Speaker" is set to "On" in the Audio menu. (see "Speaker" on page 25) • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 16)
Cannot receive upper channels (UHF) when using an antenna	• Make sure "Cable" is "Off" in the Channel Set Up menu. (see "Cable" on page 28) • Use "Auto Program" to add receivable channels that are not presently in the TV's memory. (see "Auto Program" on page 28)

No color	• Adjust “Color” in the Video menu. (see “Picture Adjustment” on page 23) • Black and white programs cannot be seen in color. • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see “To perform AUTO SET UP again” on page 16)
Only snow and noise appear on the screen	• Check the “Cable” setting in the Channel Set Up menu. (see “Cable” on page 28) • Check the antenna/cable connections. • Make sure the channel is broadcasting programs. • Press ANT to change the input mode. (see “ANT” on page 19)
Dotted lines or stripes	• Adjust the antenna. • Keep the projection TV away from noise sources such as cars, neon signs or hair-dryers.
TV is fixed to one channel	• Use “Auto Program” to add receivable channels that are not presently in TV’s memory. (see “Auto Program” on page 28)
Double images or ghosts	• Use a highly directional outdoor antenna or a cable (when the problem is caused by reflections from nearby mountains or tall buildings).
Cannot operate the menu	• If the item you want to choose appears in gray, you cannot select it. • Press the projection TV’s power button off and on again.
Cannot receive any channels when using cable TV	• Make sure “Cable” is “On” in the Channel Set Up menu. (see “Cable” on page 28) • Use “Auto Program” to add receivable channels that are not presently in the TV’s memory. (see “Auto Program” on page 28)
Cannot gain enough volume when using a cable box	• Increase the volume at the cable box. Then press TV (FUNCTION) and adjust the projection TV’s volume.
Favorite Channel does not display your choices	• Verify that “Favorite Channel” is set to “Manual” in the Channel Set Up menu. (see “Setting Favorite Channel manually” on page 29)
Some video sources do not appear when you press TV/VIDEO	• Ensure that “Video Label” is not set to “Skip.” (see “Video Label” on page 32)
Recording through MONITOR OUT does not function properly when recording in PIP mode	• MONITOR OUT will not record both images in PIP. Only the main picture will be recorded. • If you are recording the main picture and you switch to the sound of the sub picture using the AUDIO button, the main picture will be recorded with sound from the other program.
Cannot play shooting games	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with this projection TV. For details, see the instruction manual supplied with the video game software.

SONY

4-085-102-**F1**(1)

Projection TV

Operating Instructions

FLASH FOCUS

Free Layout Picture-in-Picture (PIP)

Glowing Remote

BBE

KP-XR432N90

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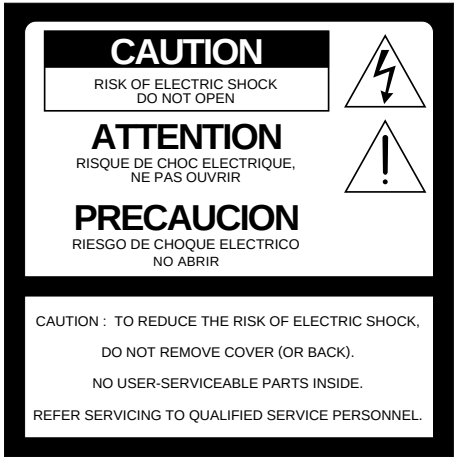
WARNING

To prevent fire or shock hazard, do not expose the TV to rain or moisture.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

To prevent electric shock, do not use this polarized AC plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

CAUTION

When using TV games, computers and similar products with your projection TV, or viewing a TV station whose logo always stays on the screen, keep the brightness and contrast functions at low settings. If a fixed (non-moving) pattern such as a station logo is left on the screen for long periods of time, especially at a high brightness or contrast setting, the image can be permanently imprinted onto the screen. These types of imprints are not covered by your warranty.

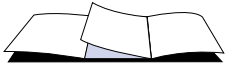
Note on convergence adjustment

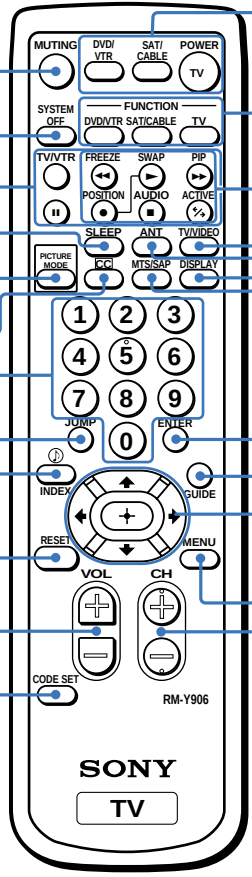
Before you use your projection TV, make sure to adjust convergence. For details, see page 16.

As an ENERGY STAR Partner, Sony Corporation has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

Remote Control

In the instructions that follow, we will refer to the buttons on your remote control.
Keep this flap unfolded and use this page for reference.





MUTING (page 17)

SYSTEM OFF (page 19)

VCR/DVD/MDP operation buttons (page 34)

SLEEP (page 19)

PICTURE MODE (pages 17, 23)

CC (page 19)

0 – 9 buttons (page 17)

JUMP (page 18)

♪ (pages 19, 24)/ INDEX*

RESET (pages 20, 23, 24)

VOL +/– (page 17)

CODE SET (pages 33, 35)

POWER* (pages 17, 34, 35)

FUNCTION* (pages 17, 34, 35)

PIP operation buttons (page 20)

TV/VIDEO (pages 18, 20)

ANT (page 19)

DISPLAY (page 18)

MTS/SAP (pages 19, 24)

ENTER (page 17)

GUIDE*

↑/↓/←/→ and ⊕ buttons (page 22)

MENU (page 22)

CH +/– (page 17)

* The blue-labeled SAT/CABLE (POWER), SAT/CABLE (FUNCTION), INDEX and GUIDE buttons cannot operate a satellite receiver (SAT) in Taiwan (the Republic of China) even if it is connected to the projection TV.

Getting to know the buttons on the remote control

Names of the buttons on the remote control are presented in different colors to represent the available functions.

Button color

Transparent .... Press to select the component you want to control; e.g. VTR (VCR)/MDP/DVD Player, CABLE, or projection TV.
Green ..... Buttons relevant to power operations, like turning the projection TV, CABLE, or VTR (VCR)/MDP/DVD Player on or off

Label color

White ..... TV/VTR (VCR)/MDP/DVD Player/CABLE operation buttons
Yellow ..... PIP operation buttons
Blue ..... SAT operation buttons*
Green ..... Power operation buttons
Pink ..... DVD Player operation buttons

For a detailed explanation of most buttons, see "Watching the TV" on page 17.

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Open Here For Table of Contents and Remote Control Graphics

Owner's Record

The model and serial numbers are located at the rear of the projection TV, below the Sony logo, on the sticker, and also on the TV box (white label). Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____

Serial No. _____

Welcome!

Thank you for purchasing the Sony Projection TV.

The features you will enjoy include:

- FLASH FOCUS, allowing you to adjust convergence automatically.
- Picture-in-Picture (PIP), allowing you to view another TV channel, video or cable image as a window picture.
- Favorite Channel, allowing you to view and choose from eight of your favorite channels
- Y / P_B / P_R inputs for DVD Player connections.
- Three AUDIO / VIDEO / S VIDEO inputs.

Using This Manual

We recommend that you carefully review the contents of the following four sections in the order provided to ensure that you fully understand the operation of your new projection TV.

1 Installing and Connecting the Projection TV
This section guides you through your initial set up. It shows you how to install your projection TV, to connect your new components and to connect to the antenna and cable.

2 Basic Set Up
This section teaches you the basic skills needed to operate your new projection TV, including Auto Set Up. It shows you how to operate the remote control's special functions.

3 Using Your New Projection TV
This section shows you how to begin using your new projection TV. It shows you how to use your remote control's features.

4 Adjusting Your Set Up (menus)
This section teaches you how to access on-screen menus and adjust your projection TV's settings.

Instructions in this manual are written for the remote control. Similar controls may be found on the projection TV console.

Precautions

Safety

- Operate the projection TV only on 110 V AC.
- The plug is designed, for safety purposes, to fit into the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object should fall inside the cabinet, unplug the projection TV immediately and have it checked by qualified service personnel before operating it further.
- If you will not be using the projection TV for several days, disconnect the power by pulling the plug itself. Never pull on the cord.

Note on cleaning

Clean the cabinet of the projection TV with a dry soft cloth. To remove dust from the screen, wipe it gently with a soft cloth. Stubborn stains may be removed with a cloth slightly dampened with solution of mild soap and warm water. Never use strong solvents such as thinner or benzine for cleaning.

If the picture becomes dark after using the projection TV for a long period of time, it may be necessary to clean the inside of the projection TV. Consult qualified service personnel.

Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the projection TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.
- Avoid operating the projection TV at temperatures below 5° C (41° F).
- If the projection TV is transported directly from a cold to a warm location, or if the room temperature changes suddenly, the picture may be blurred or show poor color. In this case, please wait a few hours to let the moisture evaporate before turning on the projection TV.
- To obtain the best picture, do not expose the screen to direct illumination or direct sunlight. It is recommended to use spot lighting directed down from the ceiling or to cover the windows that face the screen with opaque drapery. It is desirable to install the projection TV in a room where the floor and walls are not of a reflective material.

Important Safeguards

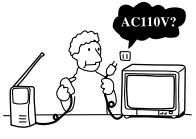
For your protection, please read these instructions completely, and keep this manual for future reference.

Carefully observe and comply with all warnings, cautions and instructions placed on the set, or described in the operating instructions or service manual.

WARNING

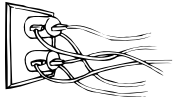
To guard against injury, the following basic safety precautions should be observed in the installation, use, and servicing of the set.

Use



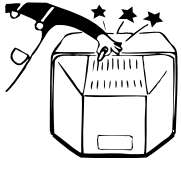
Power Sources — This set should be operated only from the type of power source indicated on the serial / model plate.
If you are not sure of the type of electrical power supplied to your home, consult your dealer or local power company. For those sets designed to operate from battery power, refer to the operating instructions.

Grounding or Polarization — This set is equipped with a polarized AC power cord plug (a plug having one blade wider than the other), or with a three-wire grounding type plug (a plug having a third pin for grounding).
Follow the instructions below:

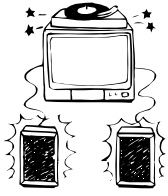


Overloading — Do not overload wall outlets, extension cords or convenience receptacles beyond their capacity, since this can result in fire or electric shock.

Always turn the set off when it is not to be used. When the set is left unattended and unused for long periods of time, unplug it from the wall outlet as a precaution against the possibility of an internal malfunction that could create a fire hazard.

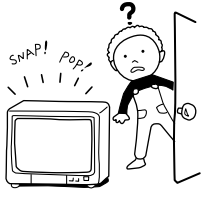


Object and Liquid Entry — Never push objects of any kind into the set through the cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the set.



Attachments — Do not use attachments not recommended by the manufacturer, as they may cause hazards.

Cleaning — Unplug the set from the wall outlet before cleaning or polishing it. Do not use liquid cleaners or aerosol cleaners. Use a cloth lightly dampened with water for cleaning the exterior of the set.



If a snapping or popping sound from a projection TV set is continuous or frequent while the projection TV is operating, unplug the projection TV and consult your dealer or service technician. It is normal for some projection TV sets to make occasional snapping or popping sounds, particularly when being turned on or off.

(continued)

Important Safeguards (continued)

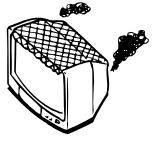
Installation

Water and Moisture — Do not use power-line operated sets near water—for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement or near a swimming pool, etc.

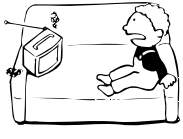
Accessories — Do not place the set on an unstable cart, stand, table or shelf. The set may fall, causing serious injury to a child or an adult, and serious damage to the set. Use only a cart or stand recommended by the manufacturer for the specific model of projection TV.

An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

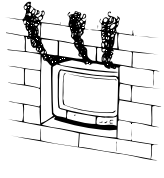
Ventilation — The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of the set, and to protect it from overheating, these slots and openings must never be blocked or covered.



— Never cover the slots and openings with a cloth or other materials.

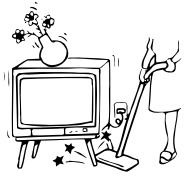


— Never block the slots and openings by placing the set on a bed, sofa, rug or other similar surface.



— Never place the set in a confined space, such as a bookcase, or built-in cabinet unless proper ventilation is provided.

— Do not place the set near or over a radiator or heat register, or where it is exposed to direct sunlight.



Power-Cord Protection — Do not allow anything to rest on or roll over the power cord, and do not place the set where the power cord is subject to wear or abuse.

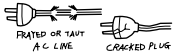
Antennas

Outdoor Antenna Grounding — If an outdoor antenna is installed, follow the precautions below.
An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits.
WHEN INSTALLING AN OUTDOOR ANTENNA SYSTEM, EXTREME CARE SHOULD BE TAKEN TO KEEP FROM CONTACTING SUCH POWER LINES OR CIRCUITS AS CONTACT WITH THEM IS ALMOST INVARIABLY FATAL.
Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.

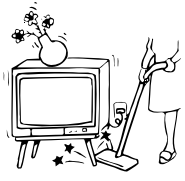
Lightning — For added protection for this television receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna. This will prevent damage to the receiver due to lightning and power-line surges.

Service

Damage Requiring Service — Unplug the set from the wall outlet and refer servicing to qualified service personnel under the following conditions:



— When the power cord or plug is damaged or frayed.



— If liquid has been spilled into the set.

— If the set has been exposed to rain or water.

— If the set has been subject to excessive shock by being dropped, or the cabinet has been damaged.

— If the set does not operate normally when following the operating instructions. Adjust only those controls that are specified in the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the set to normal operation.

— When the set exhibits a distinct change in performance—this indicates a need for service.

Servicing — Do not attempt to service the set yourself since opening the cabinet may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Replacement Parts — When replacement parts are required, be sure the service technician certifies in writing that he has used replacement parts specified by the manufacturer that have the same characteristics as the original parts.
Unauthorized substitutions may result in fire, electric shock, or other hazards.

Safety Check — Upon completion of any service or repairs to the set, ask the service technician to perform routine safety checks (as specified by the manufacturer) to determine that the set is in safe operating condition, and to so certify.

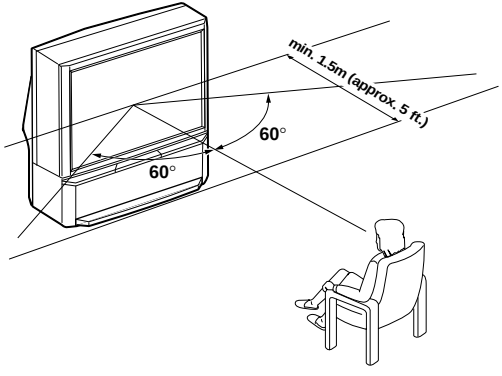
When the set reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask a qualified service technician to dispose of the set.

Carrying Your Projection TV

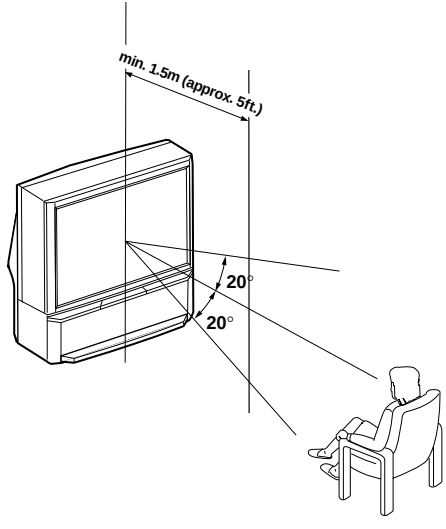
Carrying the projection TV requires three or more people.

Installing the Projection TV

Recommended viewing area (Horizontal)



Recommended viewing area (Vertical)



Connector Types

You may find it necessary to use some of the following connector types during set up.

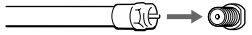
Coaxial cable

Standard TV cable and antenna cable

Plug Type

Push into connection.

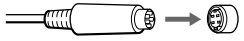
Screw-on Type



Screw into connection.

S Video cable

High quality video cable for enhanced picture quality



Align guides and push into connection.

Audio/Video cable

Push into connection.

Video - Yellow
Audio (Left) - White
Audio (Right) - Red

Some DVD Players are equipped with the following three video connectors.

Y - Green
P_B (C_B, C_b or B–Y) - Blue
P_R (C_R, C_r or R–Y) - Red

CONTROL S cable

Sony cable for CONTROL S connection. This feature is exclusive to Sony products and allow greater control of all Sony equipment.

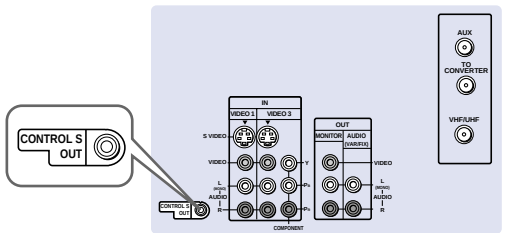
Push into connection.

Mini plug cable (not supplied)

About the CONTROL S OUT jack

To control other Sony equipment with the projection TV's remote control, connect the CONTROL S IN jack of the equipment to the CONTROL S OUT jack on the projection TV with the CONTROL S cable.

(Rear of projection TV)



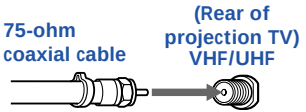
Making Connections

Connecting directly to a cable or an antenna

The connection you choose will depend on the cable found in your home. Newer homes will be equipped with standard coaxial cable (see **A**); older homes will probably have 300-ohm twin lead cable (see **B**); still other homes may contain both (see **C**).
Use 75-ohm coaxial cable for improved picture quality (see **A**).

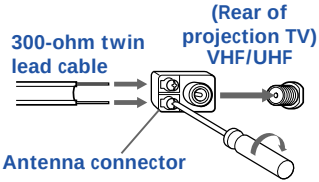
A

- VHF only
  or
- VHF/UHF
  or
- Cable



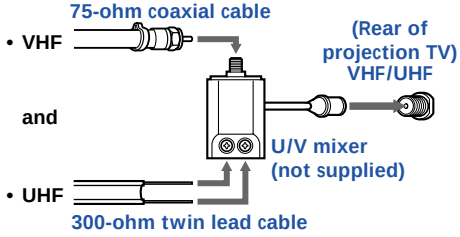
B

- VHF only
  or
- UHF only
  or
- VHF/UHF



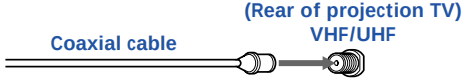
(continued)

C



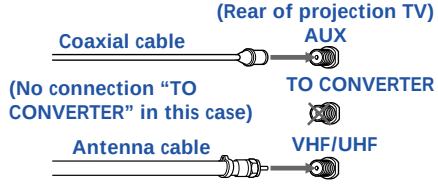
Cable or antenna

This is the simplest connection. Connection is made directly from the cable or antenna to the projection TV.



Cable and antenna

You may find it convenient to use the following set up if your cable provider does not feature local channels that you are able to receive using an antenna.

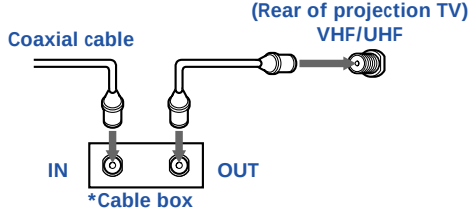


Select Cable or ANT mode by pressing ANT on the remote control.

Connecting a cable box

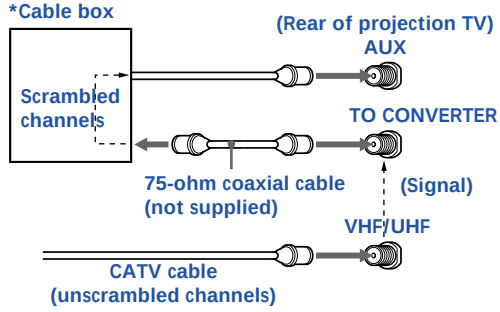
Some pay cable TV systems use scrambled or encoded signals that require a cable box* to view all channels.

Also, set "Cable" to "On" in the Channel Set Up menu (page 28).



Cable box and cable

Some pay cable TV systems use scrambled or encoded signals requiring a cable box* only for certain channels.



For this set up, you can switch between scrambled channels (through your cable box), and normal (CATV) channels by pressing ANT on your remote control.

Notes:

- You may be able to program your Sony remote control to operate your cable box. (see "Operating a Cable Box" on page 35)
- During PIP or Favorite Channel viewing, the AUX input can only be viewed in the main picture.

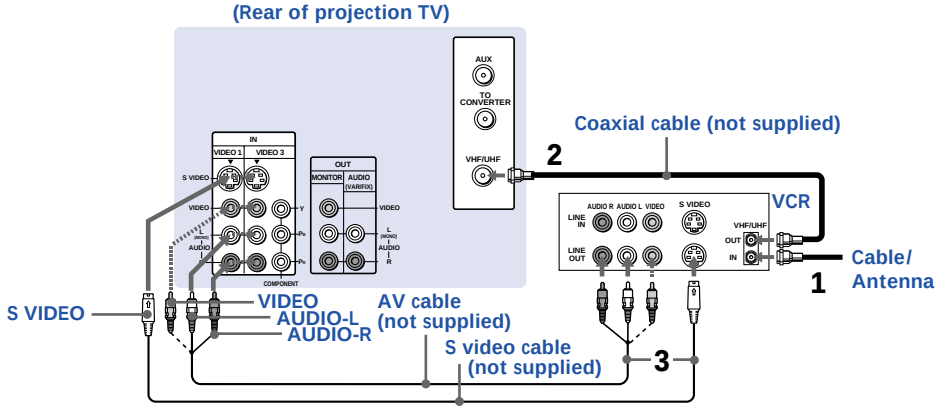
Connecting a cable TV system/ antenna to a VCR

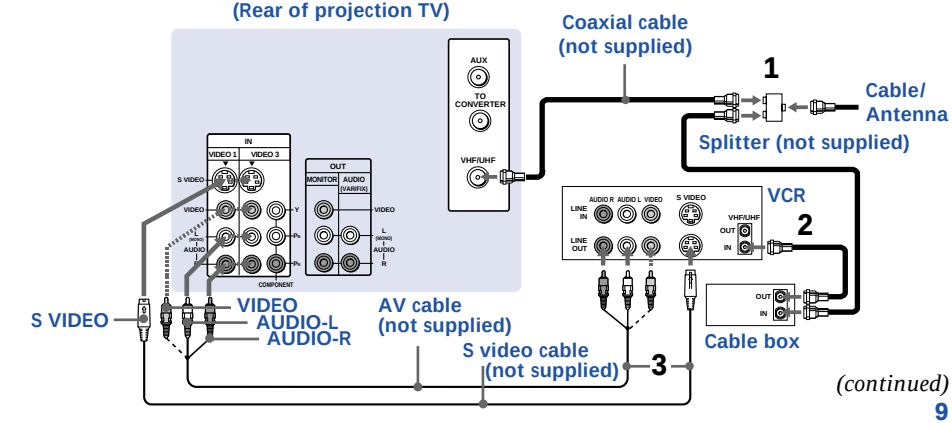
1. Attach the coaxial cable from the incoming cable connection or antenna to VHF/UHF IN on the VCR.
2. Using a coaxial cable, connect VHF/UHF OUT on the VCR to VHF/UHF on the projection TV.
3. Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right**).

Connecting a VCR and projection TV to a cable box

1. Connect the single (input) jack of the splitter to the incoming cable connection, and connect the other two (output) jacks (using the coaxial cable) to IN on the cable box and VHF/UHF on the projection TV.
2. Using a coaxial cable, connect OUT on the cable box to VHF/UHF IN on the VCR.
3. Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the VCR to AUDIO and S VIDEO IN on the projection TV (White-AUDIO Left, Red-AUDIO Right**).

Disconnect all power sources before making any connections.





(continued)

Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

Note:

- To view scrambled channels through the cable box, select the video input which the cable box is connected to by pressing TV / VIDEO.

* If your VCR is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

** If you are connecting a monaural VCR, connect only the single audio output to the left (MONO) input on the projection TV.

Connecting a camcorder

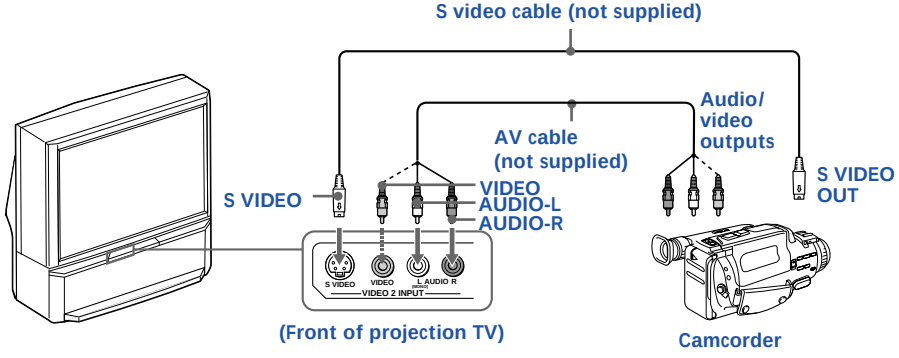
Use this connection to view a picture directly from your camcorder.

1 Using AUDIO and S VIDEO* cables, connect AUDIO and S VIDEO OUT on the camcorder to AUDIO and S VIDEO IN inside the drop-down panel on the front of the projection TV (White-AUDIO Left, Red-AUDIO Right**).

2 Press VIDEO 2 to select the video inputs from a camcorder.

* If your camcorder is not equipped with S VIDEO, use a VIDEO cable (yellow) instead of the S VIDEO cable.

** If you are connecting a monaural camcorder, connect only the single audio output to the left (MONO) input on the projection TV.



Disconnect all power sources before making any connections.

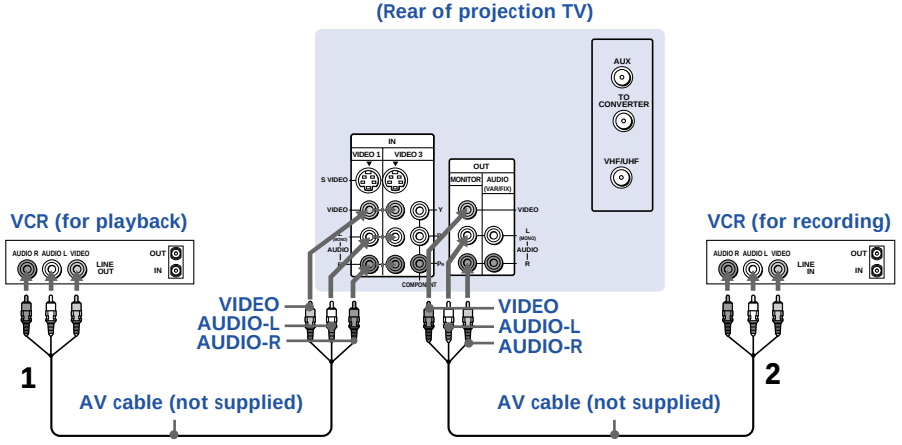
Connecting two VCRs for tape editing

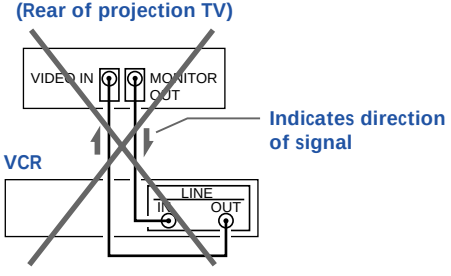
By connecting a second VCR to MONITOR OUT, you can record a program being played by the primary VCR to the second VCR or perform tape editing and dubbing.

1. Connect the VCR intended for playback using the connection instructions on page 6 of this manual.
2. Using an AUDIO / VIDEO cable, connect AUDIO and VIDEO IN on the VCR intended for recording to AUDIO and VIDEO OUT of MONITOR OUT on the projection TV.

Notes:

- Do not change the input signal while editing through MONITOR OUT.
- When connecting a single VCR to the projection TV: if VCR LINE OUT is connected to VIDEO IN on the projection TV, ***do not*** connect MONITOR OUT on the projection TV to the VCR LINE INPUT (see right). Doing so will cause program interference and other viewing problems.





Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

Connecting a DVD Player (Upper illustration)

Using an AUDIO and S VIDEO cables, connect AUDIO and S VIDEO IN on the projection TV to AUDIO and S VIDEO OUT on the DVD Player (White-AUDIO Left, Red-AUDIO Right).

Connecting a DVD Player with component video output connectors (Lower illustration)

1. Using an AUDIO cable, connect AUDIO of LINE OUT on the DVD Player to AUDIO of VIDEO 3 IN on the projection TV (White-AUDIO Left, Red-AUDIO Right).
2. Using three yellow VIDEO cables, connect Y, P_B, and P_R of COMPONENT VIDEO OUT on the DVD Player to Y, P_B, and P_R of VIDEO 3 IN on the projection TV.

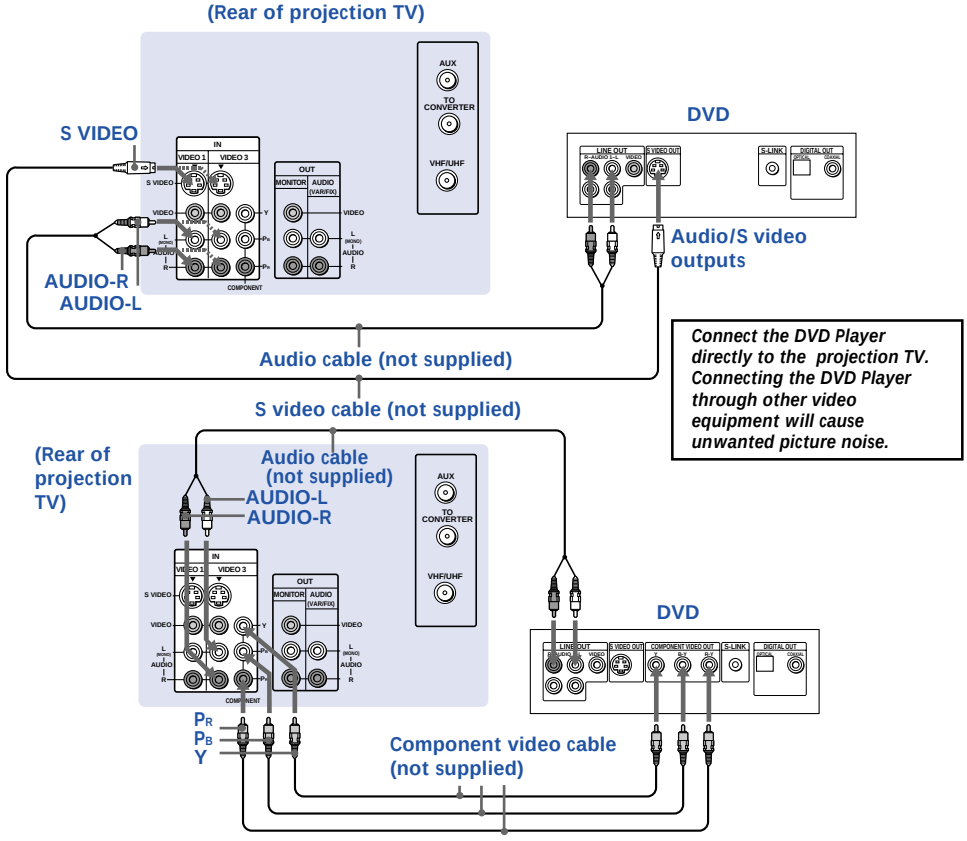
Note:

- Some DVD Player terminals may be labeled differently. If so, connect as follows:

  Connect Y (green) to Y.

  Connect P_B (blue) to C_B, C_b or B-Y.

  Connect P_R (red) to C_R, Cr or R-Y.



Connecting an audio system

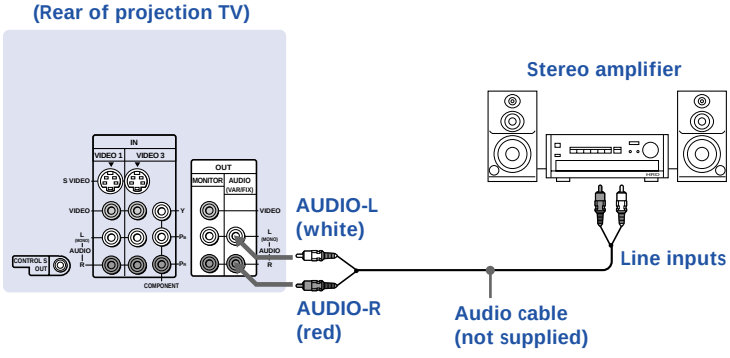
For more dynamic sound, connect an audio system to the projection TV.

1. Using an AUDIO cable, connect AUDIO (VAR/FIX) OUT on the projection TV to one of the unused Line inputs (e.g. Tape-2, AUX1, etc.) on the stereo.
2. Set the stereo to the chosen Line input and use the Audio menu to set the audio output and switch the projection TV's speakers off. (see "Audio Out" and "Speaker" on page 25)

Note:

- You can adjust VOLUME, "Bass," "Treble," "Balance," "MTS/SAP" and "Effect" with the supplied remote control. The control items except VOLUME can be adjusted only when "Audio Out" is set to "Variable" in the Audio menu. (see "Audio Out" on page 25)

Disconnect all power sources before making any connections.



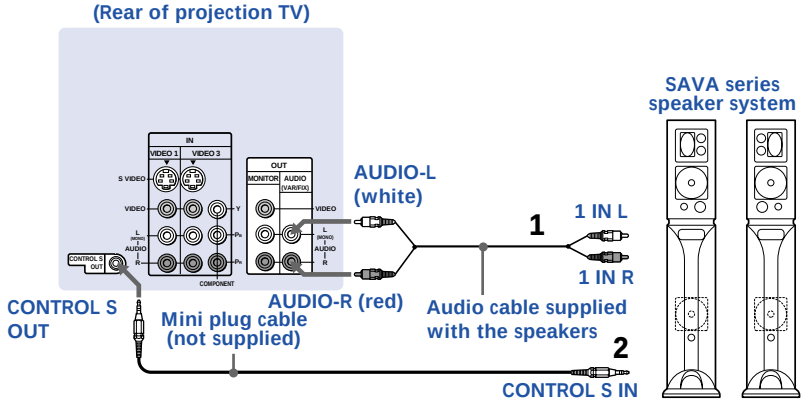
Installing and Connecting the Projection TV (continued)

Disconnect all power sources before making any connections.

Connecting a Sony SAVA series speaker system

Use this connection to control the speaker's Dolby* Pro Logic surround system and super woofer mode with the remote control. (see "SAVA SP Control" on page 25)

1. Using the AUDIO cable supplied with the speaker to AUDIO (VAR/FIX) OUT on the projection TV.
2. Using the CONTROL S cable, connect CONTROL S IN on the speaker to CONTROL S OUT on the projection TV.

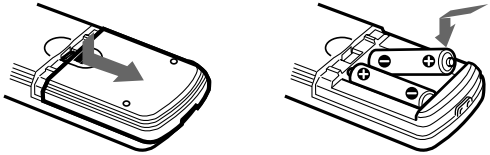


* Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under Canadian patent number 1,037,877. "Dolby," the double-D symbol and "Pro Logic" are trademarks of Dolby Laboratories Licensing Corporation.

Using the Remote Control

Inserting the batteries

Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the remote control's battery compartment.



Notes:

- Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.
- Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater or where the humidity is high.
- Your remote control can be programmed to operate most video equipment. (see "Operating Video Equipment" on page 33)

Setting Up the Projection TV Automatically

The AUTO SET UP feature will allow you to set the on-screen language and set all receivable channels.

The AUTO SET UP feature does not apply for installations that use a cable box for all channel selection.

You can also set up the projection TV manually. (see "Using the Channel Set Up menu" on pages 27 and 28)

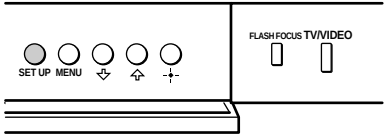
Notes:

- Before you perform AUTO SET UP again, make sure that the input from ANT (not AUX) is selected by pressing ANT until "AUX" does not appear next to the channel number.
- Perform this function during the day, with the antenna and / or cable properly connected, to ensure that all available channels will be broadcasting and receivable.
- When you perform AUTO SET UP, all the settings in the Video, and Audio menus are reset to the factory settings.

Using the buttons on the front panel and inside the drop-down panel on the projection TV:

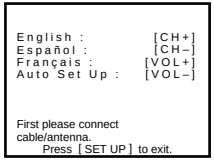
Front panel:

Inside the drop-down panel:



1 Press ON / OFF to turn on the projection TV.

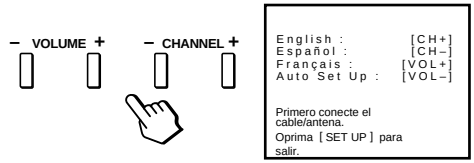
2 Press SET UP inside the drop-down panel. The AUTO SET UP screen appears.



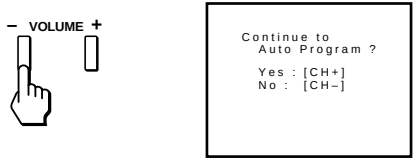
(continued)

3 Press CHANNEL + to select English, CHANNEL – to select Español or VOLUME + to select Français.

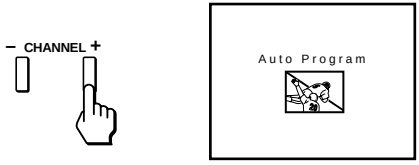
The screen will change to reflect your choice.



4 Press VOLUME – to continue.



5 Press CHANNEL + to preset channels automatically.



"Auto Program" appears and the projection TV starts scanning and presetting channels automatically. While scanning, the received channel will be displayed on the sub screen. When all the receivable channels are stored, the lowest numbered channel is displayed.

To perform AUTO SET UP again

Press SET UP inside the drop-down panel on the projection TV and perform steps 3-5 on pages 15 and 16.

Press SET UP again to exit.

Adjusting the Convergence Automatically (FLASH FOCUS)

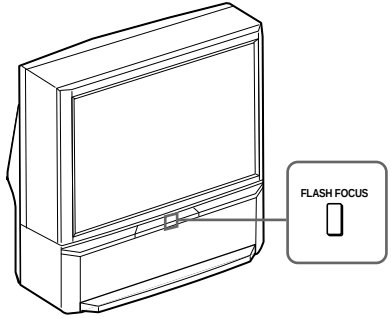
The projection tube image appears on the screen in three layers (red, green and blue). If they do not converge, the color is poor and the picture blurs.

Before you use your projection TV, be sure to adjust the convergence.

The FLASH FOCUS feature allows you to adjust the convergence automatically.

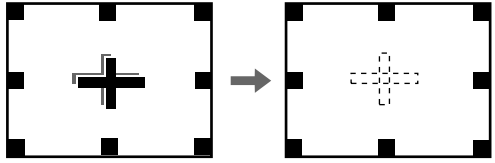
Tips

- *It is recommended to perform FLASH FOCUS about 30 minutes after the projection TV is first turned on.*
- *You can also perform FLASH FOCUS using the Set Up menu on page 32.*



Press FLASH FOCUS.

The cross pattern appears and FLASH FOCUS begins to work. The adjustment is completed when the cross pattern becomes white.



Note:

- FLASH FOCUS is canceled if you perform any other function while FLASH FOCUS is working.

Watching the TV

Many TV features can be accessed directly through the remote control. The following chart will explain the function of some buttons found on your remote control.

Using the White Labeled Buttons for Projection TV Operations	
TV (FUNCTION)	Activates the remote control for use with the projection TV.
TV POWER	Turns the projection TV on and off. If a video input indication (e.g., VIDEO 1, VIDEO 2) appears on the screen, press TV/VIDEO until a channel number appears.
0 - 9 and ENTER	Use for direct channel selection. Press 0-9 to select a channel (for example, to select channel 10, press 1 and 0). The channel will change after 2 seconds, or you can press ENTER for immediate selection.
CH +/–	Press to scan through the channels (+ up or – down). **Speed Surf** **1** Press and hold CH + or – to change the channel number rapidly. **2** Release to display the desired channel.
VOL +/–	Press to adjust the volume (+ up or – down).
MUTING	Press to mute the sound. “Muting” will appear on the screen and will dim three seconds later. To restore sound, press again or press VOL +.

(continued)

PICTURE MODE

Press PICTURE MODE repeatedly to directly choose one of five different video modes that best suits the program you are watching.

Vivid: Select for enhanced picture contrast and sharpness.

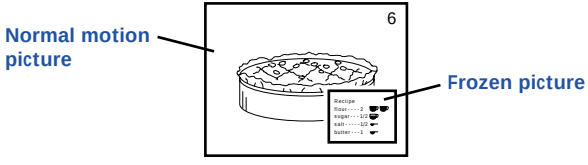
Standard: Select to display a standard picture for normal viewing environments.

Movie: Select to display a finely detailed picture for low light environments.

Personal 1, Personal 2: Select to customize the “Picture Adjustment” of the Video menu according to your personal preference.

When you select “Movie,” “Personal 1” or “Personal 2,” you can also perform the “Picture Adjustment” (such as “Brightness,” “Color,” etc.) to suit your taste. For details, see “Mode” on page 23.

Using Your New Projection TV (continued)

Using the White Labeled Buttons for Projection TV Operations	
TV/VIDEO	Press repeatedly to scroll through available video inputs: **TV, VIDEO 1, VIDEO 2** and **VIDEO 3.** If you select “Skip” as a “Video Label” in the Set Up menu, your projection TV will skip the video input you selected. (see “Video Label” on page 32)
JUMP	Press to alternate or *jump* back and forth between two channels. The projection TV will jump between the current channel and the last channel selected using the 0-9 buttons.
FREEZE *(yellow labeled button)*	This is useful when you need to copy down information that appears on the TV’s screen. Press to *freeze* the desired picture. The frozen picture is displayed in the window picture while viewing the normal picture of the current channel in the main picture.  To change the location of the window picture, press ↑, ↓, ← or →. Press FREEZE again to display the normal picture.
DISPLAY	Press to display the channel number, current time, channel caption (if set), and MTS/SAP mode (if SAP is selected). The SAP indication disappears and the other indications dim three seconds later. To turn the display off, press DISPLAY again.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Using the White Labeled Buttons for Projection TV Operations

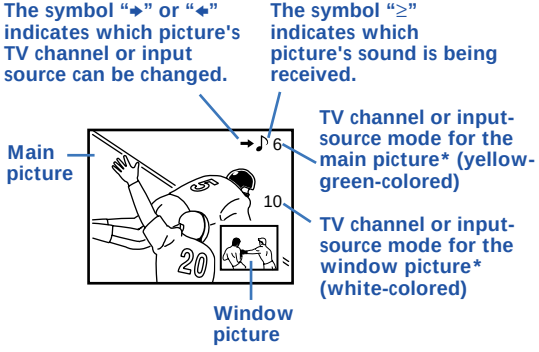
CC	Press repeatedly to scroll through available displays: **XDS (Extended Data Service)** Displays a network name, program name, program type, program length, program description, call letters and time of the show if the broadcaster offers this service. **Caption Vision** Displayed on the screen if the broadcaster offers this service. (see "Caption Vision" on page 31) **No display** "Off" appears and the display is canceled.
SLEEP	Press repeatedly until the projection TV displays the approximate time in minutes (30, 60, or 90) that you want the projection TV to remain on before shutting off automatically. Cancel by pressing until "Sleep Off" appears.
ANT *(AUX input)*	Press to change between the VHF/UHF input and the AUX input. (for detailed connection information, see "Cable and antenna" or "Cable box and cable" on page 8)
MTS/SAP	Press to scroll through the Multi-channel TV Sound (MTS) options: **Stereo, SAP, Mono** and **Auto SAP.** (see "MTS/SAP" on page 24)
♪	Press to select an audio option: **Simulated, Surround, BBE** and **Effect Off.** (see "Effect" on page 24)
TV/VTR	Press when you are finished using a VCR and you want to switch to the TV input. The VCR power will remain on.
SYSTEM OFF	Press to turn off the projection TV and all other Sony equipment.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Watching Two Programs at One Time — PIP

The Picture-in-Picture (PIP) feature allows you to view two channels simultaneously, one in the full size "main" picture and one in a smaller "window" picture.

You can move the window picture to any location on the screen.


The symbol "➔" or "➔" indicates which picture's TV channel or input source can be changed.
The symbol "≥" indicates which picture's sound is being received.
TV channel or input-source mode for the main picture* (yellow-green-colored)
TV channel or input-source mode for the window picture* (white-colored)
Main picture
Window picture
6
10
20

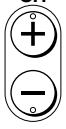
* It will dim in about 3 seconds.

Tip

If you press RESET in PIP mode, the window picture will move to the bottom right (factory-preset location).

Using the Yellow Labeled Buttons for PIP Operations	
PIP	Press to display a window picture. Each time you press this button, the picture size will change (1/9 → 1/16 → no display). To close the window picture, press PIP repeatedly until it disappears.
POSITION or	Press repeatedly to change the location of the window picture (counterclockwise) around the main picture. You can also change the location by pressing the ↑, ↓, ← or → button. The window picture moves in the direction of the arrow indicated on the pressed button.
ACTIVE	Press to select either the main or window picture in order to change the TV channel or video source using the white labeled buttons below. The symbol "➔" (or "➔") will appear to indicate which picture's channel or input mode can be changed.
TV/VIDEO *(white labeled button)*	Press repeatedly to scroll through the available video inputs for the picture on which the symbol "➔" (or "➔") is displayed. (see "TV/VIDEO" on page 18)

Using the Yellow Labeled Buttons for PIP Operations

CH  or **0** - **9** or **JUMP** and ENTER *(white labeled button)*	Press to select the TV channel on which the symbol "➔" is displayed. (for details, see "Watching the TV" on page 17) **Speed Surf** **1** Press and hold CH + or – to change the channel number rapidly. **2** Release to display the desired channel.
ANT *(white labeled button)*	Press to change between the VHF/UHF input and the AUX input for the picture on which the symbol "➔" (or "➔") is displayed.
AUDIO	Press to alternate sound between the main picture and the window picture. The symbol " ♪ " will appear for a few seconds to indicate which picture's sound is being received.
FREEZE	This is useful when you need to copy down information of the main picture. Press to freeze the desired scene in the main picture. The frozen picture is displayed in the window picture while viewing the normal picture in the main picture. The window picture size is automatically changed to 1/9 if it was 1/16. Press again to resume normal PIP viewing.
SWAP	Press to switch the audio and video of the main picture and the window picture. Each time you press SWAP, the picture and sound of the two will be exchanged.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Note:

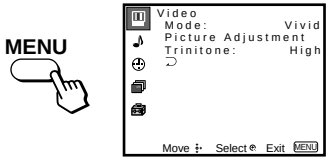
- If one of the pictures received through PIP is snowy, the entire screen may become unstable. In this case, erase the snowy channel. (see "Channel Skip / Add" on page 28)

Learning Menu Selection

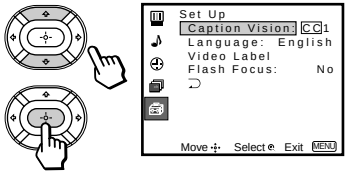
Use the MENU button to access a menu and use the ↑, ↓, ←, → and ⊕ buttons to alter the settings. Use the following example to learn how to modify settings.

1 Press the MENU button.

The main menu appears.



2 Press ↑ or ↓ to highlight the desired menu and press ⊕ to activate it.



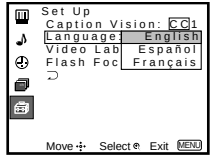
You may also press → to activate your selection.

3 Press ↑ or ↓ to highlight the desired option.

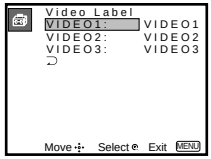
4 Press ⊕.

Options for your selection (Pop-up menu or Adjusting menu) will be displayed.

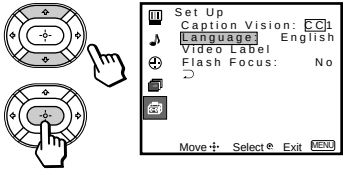
Pop-up menu



Adjusting menu



5 Press ↑ or ↓ to make your selection and press ⊕ to activate it.
The previous screen will reappear.



Some adjustment menus may require further operations. For details, see each menu option.

To return to the previous screen (except for the slider adjustment menus), choose "↩" at the bottom of the menu and press ⊕ or ←.

6 Once you have completed all menu corrections, press MENU to exit the menu screens.

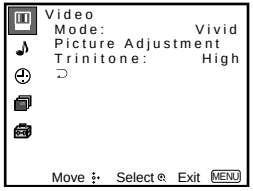
To exit from the menus at any time

Press MENU.

Tip

You can also use the MENU, ↑/↓ and ⊕ buttons inside the front drop-down panel of the projection TV for the menu selection.

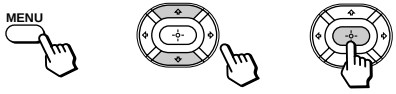
Using the Video Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

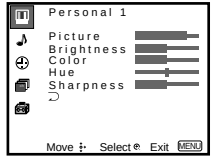
To select the Video menu:

Display → Highlight → Select

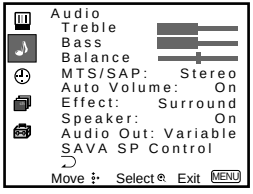


To restore the factory settings

Press RESET on the remote control while the Video menu is selected. To restore each “Mode” to the factory setting, press RESET after selecting the mode to be reset.

Mode *Customized picture viewing*	You can choose one of five different video modes that best suits the program you are watching. You can also perform the “Picture Adjustment” (such as “Brightness,” “Color,” etc.) for “Movie,” “Personal 1” or “Personal 2” to suit your taste. **Vivid:** Select for enhanced picture contrast and sharpness. **Standard:** Select to display a standard picture for normal viewing environments. **Movie:** Select to display a finely detailed picture for low light environments. **Personal 1, Personal 2:** Select to customize the “Picture Adjustment” of the Video menu according to your personal preference. *Press PICTURE MODE on the remote control for direct selection of a “Mode” setting.*
Picture Adjustment *Picture adjustment*	First select “Movie,” “Personal 1” or “Personal 2” from “Mode,” then highlight the desired option using the ▲ or ▼ button and press ⊕ to display the adjusting slider of the selected option. **Picture:** Adjust slider right (up) to increase picture contrast; left (down) to decrease it. **Brightness:** Adjust slider right (up) to brighten the picture; left (down) to darken it. **Color:** Adjust slider right (up) to increase color intensity; left (down) to decrease it. **Hue:** Adjust slider right (up) to increase the green tones; left (down) to increase the red tones. **Sharpness:** Adjust slider right (up) to sharpen the picture; left (down) to soften it. 
Trinitone *White intensity adjustment*	**High:** Select to give the white colors a blueish tint. **Medium:** Select to give the white colors a neutral tint. **NTSC Standard:** Select to give the white colors a reddish tint.

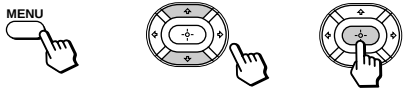
♪ Using the Audio Menu



For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

To select the Audio ♪ menu:

Display → Highlight ♪ → Select



To restore the factory settings

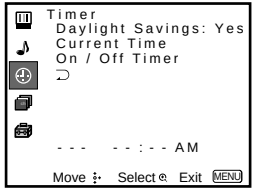
Press RESET on the remote control while the Audio menu is selected.

* The BBE is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word “BBE” and the BBE symbol are the trademarks of BBE Sound, Inc.

Treble *Sound adjustment*	Adjust slider right (up) to increase high pitched sounds. Adjust slider left (down) to decrease high pitched sounds.
Bass *Sound adjustment*	Adjust slider right (up) to increase low pitched sounds. Adjust slider left (down) to decrease low pitched sounds.
Balance *Sound adjustment*	Adjust slider right (up) to emphasize right speaker volume. Adjust slider left (down) to emphasize left speaker volume.
MTS/SAP *Enjoy stereo, bilingual and mono programs.*	When the sound is intermittent due to poor reception conditions, select “Stereo” or “SAP.” **Stereo:** Select for stereo reception when viewing a program broadcast in stereo. **SAP:** Select to listen to a bilingual broadcast. (non-SAP programs will be muted when this feature is selected) **Mono:** Select for mono reception. (use to reduce noise during stereo broadcasts) **Auto SAP:** Select to listen to SAP when a SAP program is broadcast and return to stereo reception automatically for non-SAP programs. ***Quick MTS access:*** *Press* MTS/SAP *on the remote control to cycle through the “MTS/SAP” options as follows: Stereo → SAP → Mono → Auto SAP.*
Auto Volume *Adjust the sound level.*	**On:** Sound output coming from TV speakers have the volume level equalized for all channel audio inputs when broadcasts have different sound transmission levels. **Off:** Sound output coming from the TV speakers varies according to the received channel.
Effect *Customizes surround sound effects based on the program’s audio type.*	“Effect” can only be set when “Speaker” is set to “On” or “Off.” **Simulated:** Adds a surround-like effect to mono programs. **Surround:** Simulates sound with the atmosphere of a movie theater or a concert hall for stereo programs. **BBE*:** Centers the sound intensity to the front, creating an effect as if you were seated in front of an orchestra. **Off:** Normal stereo or mono reception. ***Quick Effect access:*** *Press ♪ on the remote control to cycle through the “Effect” options as follows: Simulated → Surround → BBE → Effect Off.*

Speaker *Custom selection of audio output source*	**On:** Select to listen to the sound from the projection TV speakers alone. **Off:** Select to turn off the projection TV speakers and listen to the projection TV's sound only through an external audio system's speakers. **SAVA SP:** Select to turn off the projection TV speakers and listen to the projection TV's sound only through the Sony SAVA series speaker system. You can adjust volume, muting, "Surround Mode," and "Super Woofer Mode" with the projection TV's remote control. (see "SAVA SP Control" below)
Audio Out *Easy control of volume adjustment*	"Audio Out" can only be set when "Speaker" is set to "Off." **Fixed:** Sound output is held at a fixed level through the audio system. Use the AV receiver's remote control to adjust the volume. **Variable:** Sound output varies according to the TV settings. Useful when you want to use your remote control to control the output of a separate audio system.
SAVA SP Control *Controls Sony SAVA speaker's mode.*	"SAVA SP Control" can only be set when Sony SAVA speaker system is connected to the AUDIO (VAR/FIX) OUT connectors and "Speaker" is set to "SAVA SP." (see "Speaker" above) You can also adjust the SAVA speaker's volume using VOL +/– of the projection TV's remote control. **Surround Mode:** Select to activate the SAVA Speaker's surround mode. **Super Woofer Mode:** Select to activate the SAVA Speaker's super woofer mode.

Using the Timer Menu

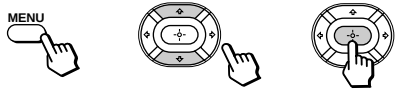


After setting the clock you can use the timer to turn the projection TV on and off.

For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

To select the Timer menu:

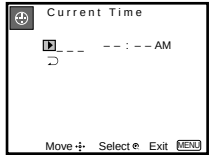
Display → Highlight → Select

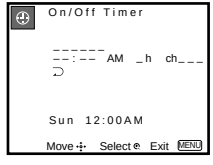


Tip

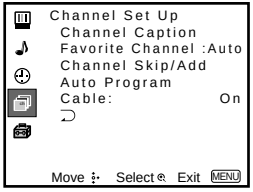
Set daylight saving time before setting the clock. Any loss of power will cause these settings to be erased.

Daylight Savings *Automatically adjusts the time.*	**Spring:** Select **Yes** to compensate for Daylight Saving Time. The current time automatically moves ahead one hour. **Fall:** Select **No** at the end of Daylight Saving Time. The current time moves back one hour.
Current Time *Necessary for the Timer.*	**1** Press ⊕, then press ▲ or ▼ until the current day (Sun-Sat) is displayed, and press ⊕. **2** Press ▲ or ▼ until the current hour (1-12) and AM/PM is displayed, and press ⊕. **3** Press ▲ or ▼ until the current minute (00-59) is displayed, and press ⊕. The clock has now started. Press MENU to exit.
On/Off Timer *Wake up or scheduled viewing.*	**1** Press ▲ or ▼ until the desired day or range of days (Every Sun-Sat, Every Mon-Fri, Sunday, Monday, ... Saturday, Every Sunday, ... Every Saturday) is displayed, and press ⊕. **2** Press ▲ or ▼ until the time (hours and minutes) that you want the projection TV to remain on is displayed, and then press ⊕. **3** Press ▲ or ▼ to set the time duration (maximum of 6 hours) and press ⊕. **4** Press ▲ or ▼ to select the desired channel and press ⊕. The timer is now set. The TIMER/STAND BY indicator on your projection TV will be lit. Press MENU to exit. To cancel your timer setting, press RESET while in the On/Off Timer window. Performing Auto Program will erase all Timer settings.





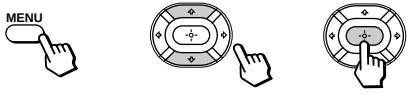
Using the Channel Set Up Menu



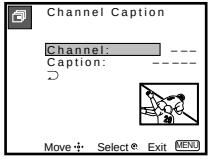
For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

To select the Channel Set Up menu:

Display → Highlight → Select



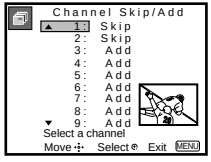
Channel Caption *Easy recognition of the channel you are watching*	You can add a caption for up to 32 channels of VHF/UHF input. With the Channel Caption window open: **1** Press ⊕ and then press ▲ or ▼ to select the desired channel. You can view the channel that is selected with the Channel Caption menu in the sub screen. **2** Press ⊕. **3** Press ▲ or ▼ to display the first letter or number of the caption and press ⊕ to select it. Repeat until up to five digits are selected. **4** Press ⊕. *To erase a caption, press RESET.*
Favorite Channel *User’s favorite channels*	The Favorite Channel feature enables easy access to the eight channels that you preset (or the last channel that you were watching). (for details on how to set up this feature, see “Setting and Selecting Favorite Channel” on page 29)



(continued)

Adjusting Your SET UP (menus) (continued)

Channel Skip/Add *Skips unnecessary channels.*	After AUTO SET UP, you can erase unnecessary channels from the channel preset memory. With the Channel Skip/Add window open: **1** Press ↑ or ↓ to select the desired channel. You can view the channel that is selected with the Channel Skip/Add menu in the sub screen. You can also use CH +/– or 0–9 and ENTER buttons. **2** Press ⊕. **3** Press ↑ or ↓ to select **Skip**, and press ⊕. The selected channel will be erased. If you want to re-enter the skipped channel, follow the steps above and select **Add**.
Auto Program *Automatic channel presetting*	Select **Yes** to signal the projection TV to automatically program all receivable channels. When all the receivable channels are stored, the lowest numbered channel is displayed. Select **No** to cancel Auto Program.
Cable *Cable system setting*	Select **On** if your projection TV is connected to a cable system. Select **Off** if your projection TV is connected to an antenna.



Setting and Selecting Favorite Channel

The Favorite Channel feature of your projection TV enables easy access to the eight channels that you preset (or the last channel that you were watching).

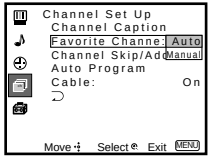
Your Favorite Channel options can be set automatically or manually.

The factory setting for “Favorite Channel” is “Auto.”

When “Favorite Channel” is set to “Auto,” the last eight channels selected with the 0–9 buttons will be set as Favorite Channel options. If you want to input your own selections as Favorite Channel settings, set to “Manual.”

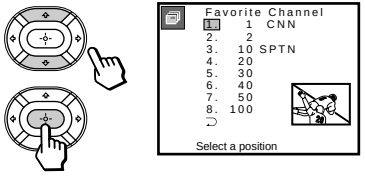
Setting Favorite Channel manually

1 Select “Favorite Channel” from the Channel Set Up menu. (see page 27)

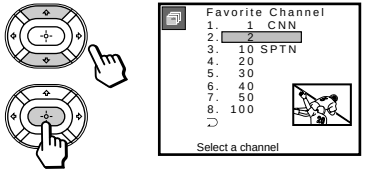


2 Press ↑ or ↓ to select “Manual” and press ⊕.

The Favorite Channel menu will appear. If you set Channel Caption names, they will also be displayed. (see “Channel Caption” on page 27)

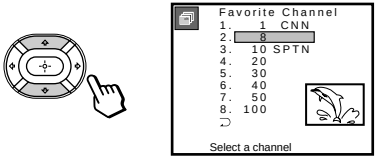


3 Press ↑ or ↓ to select a position (1–8), and press ⊕.



4 Press ↑ or ↓ to select a channel and press ⊕.

You have now selected a favorite channel.



5 Use ↑ and ↓ to program other favorite channels. (Follow steps 3 and 4.)

6 Press MENU when you have finished.

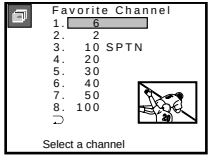
Your favorite channels are now ready for use.

Changing Favorite Channel choices

You have the option of returning to the Favorite Channel screen to adjust any of your favorite channel choices.

Simply proceed as described in “Setting Favorite Channel manually” (skip step 2 if “Manual” is already selected).

When you reach step 3, select the position you want to change and press ⊕. Press ↑ or ↓ to select a new channel.



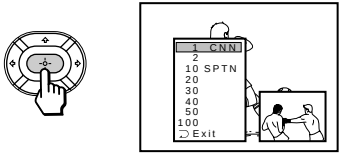
Press MENU when you are done.

Using Favorite Channel

You can use the Favorite Channel feature to directly select the channel you want to watch.

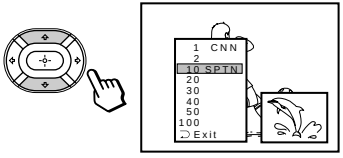
1 Press ⊕ once.

The favorite channel menu and a window picture will be superimposed over the current channel. The window picture displays the channel selected from the menu.



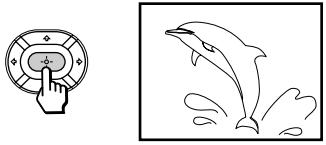
2 Press ↑ or ↓ to select the channel that you wish to view from the menu.

The picture of the selected channel will be displayed in the window picture.



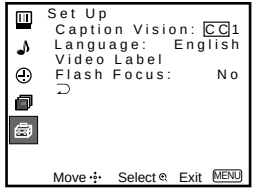
3 Press ⊕ to select the channel.

The selected channel will be displayed for normal viewing.



To cancel the favorite channel menu before selecting a channel, press ↑ or ↓ to select “Exit” at the bottom of the menu and press ⊕.

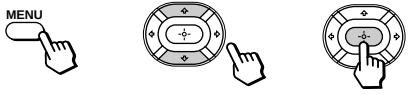
Using the Set Up Menu

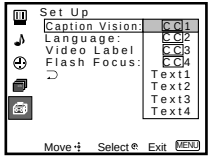


For detailed information on using the remote control to modify menu settings, refer to “Learning Menu Selection” on page 22.

To select the Set Up menu:

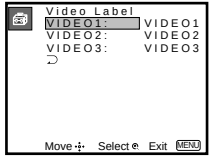
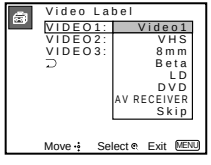
Display → Highlight → Select



Caption Vision *Television closed caption display*	Some programs are broadcast with Caption Vision. To display “Caption Vision,” select CC1, CC2, CC3, CC4, TEXT1, TEXT2, TEXT3 or TEXT4 from the menu. Then press the CC button until “Caption Vision” is displayed. CC1, CC2, CC3 or CC4 displays a printed version of the dialogue or sound effects of a program. (The mode should be set to CC1 for most programs.) TEXT1, TEXT2, TEXT3, or TEXT4 displays network/station information presented using either half or the whole screen.  **Notes:** • Poor reception of TV programs can cause errors in Caption Vision and XDS. Captions may appear with a white box or other errors instead of the intended text. • XDS, Caption Vision, and the status display cannot be used at the same time.
Language *Preferred language*	Select from available languages (**English, Español** or **Français**) to display all menus in your language of choice.

(continued)

Adjusting Your SET UP (menus) (continued)

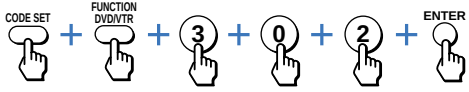
Video Label *Easy recognition of connected equipment (e.g. DVD, VHS, etc.)*	This feature allows you to label each input mode so that you can easily identify the connected equipment (e.g. you can label VIDEO 1 IN as VHS).  With the Video Label window open: **1** Press ▲ or ▼ to select the input mode you want to label and press ⊕. **2** Press ▲ or ▼ to select the label and press ⊕.  **Video Label Options:** **VIDEO 1**: VIDEO 1, VHS, 8mm, Beta, LD, DVD, AV RECEIVER, Skip **VIDEO 2/3**: VIDEO 2/VIDEO 3, VHS, 8mm, Beta, LD, DVD, Skip *If you select "Skip," your projection TV will skip this connection when you scan through video sources using the TV/VIDEO button.*
Flash Focus *Automatic convergence adjustment*	Select **Yes** and press ⊕ to start Flash Focus adjustment. When the adjustment is completed, the cross pattern on the screen becomes white. (for details, see page 16) Select **No** to cancel Flash Focus.

Setting the Manufacturer's Code

You can use the supplied remote control to operate Sony or non-Sony video equipment that has an infrared sensor.

Press CODE SET, DVD/VTR (FUNCTION), and the 0-9 buttons to enter the manufacturer's code number (see the following chart), then press ENTER.

For example, to operate a Sony 8mm VCR:



If the remote control doesn't work

- See the tips on page 35.

VCR manufacturer code numbers

Manufacturer	Code
Sony (VHS VCR)	301
Sony (8mm VCR)	302
Sony (Beta, ED Beta, VCRs)	303
Aiwa	338
Admiral (M. Ward)	327
Audio Dynamic	314, 337
Bell & Howell (M. Ward)	330
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Curtis Mathis	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	340, 339, 322
Goldstar	332
Hitachi	306, 304, 305, 338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Optimus	327
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA/PROSCAN	304, 305, 308, 309, 311, 329, 312, 313, 310
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Signature 2000 (M. Ward)	338, 327
Sylvania	308, 309, 338, 310
Symphonic	338
SV2000	338
Tashiro	332
Tatung	314, 336, 337
Teac	314, 336, 338, 337
Technics	309, 308
Teknica	338
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	330, 314, 336, 337
Zenith	331

MDP manufacturer code numbers

Manufacturer	Code
Sony	701
Panasonic	704, 710
Mistubishi	702

DVD Player manufacturer code numbers

Manufacturer	Code
Sony	751
Panasonic	753
Pioneer	752
RCA	755
Toshiba	754

Tips

- *In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote control. In this case, please use the equipment's own remote control.*
- *When you remove the batteries, the code number may revert to the factory setting.*

To operate video equipment

1 Press DVD / VTR (FUNCTION).

2 Use the VCR / DVD / MDP operation buttons indicated in the following tables.

Operating a VCR using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To select a channel	Press the 0 – 9 buttons.
To change channels	Press CH +/–.
To record	Press ► while pressing ●.
To play	Press ►.
To stop	Press ■.
To fast forward	Press ►►.
To rewind the tape	Press ◄◄.
To pause	Press ❚❚. Press again to resume normal playback.
To search the picture forward or backward	Press ►► or ◄◄ during playback. Release to resume normal playback.
To change input mode	Press TV/VTR.

Operating an MDP using the remote control

To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To play	Press ►.
To stop	Press ■.
To pause	Press ❚❚. Press again to resume normal playback.
To search the picture forward or backward	Press ►► or ◄◄ during playback. Release to resume normal playback.
To search a chapter forward or backward	Press CH +/–.

Operating a DVD Player using the remote control

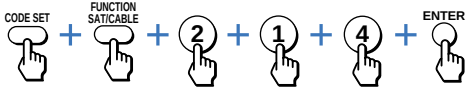
To turn On/Off	Press DVD/VTR (POWER). [Green Button]
To play	Press ►.
To stop	Press ■.
To pause	Press ❚❚. Press again to resume normal playback.
To step through different tracks of an audio disc	Press ►► to step forward or ◄◄ to step backward.
To step through different chapters of a video disc	Press CH + to step forward or CH – to step backward.
To select tracks directly	Press 0-9 buttons.
To display the menu (Set up)	Press MENU.

Setting the Manufacturer's Code

You can program the supplied remote control to operate a cable box.

Press CODE SET, SAT/CABLE (FUNCTION)*, and the 0-9 buttons to enter the manufacturer's code number (see the following chart), then press ENTER.

For example, to operate a Pioneer cable box:



Manufacturer code numbers (cable box)

Manufacturer	Code
Hamlin/Regal	222, 223, 224, 225, 226
Jerrold/G.I	201, 202, 203, 204, 205, 222, 206, 207, 208, 218
Oak	227, 228, 229
Panasonic	219, 220, 221
Pioneer	214, 215
Scientific Atlanta	209, 210, 211
Tocom	216, 217
Zenith	212, 213

To operate the cable box

1. Press SAT/CABLE (POWER)* [Green Button] to turn on/off the cable box.
2. Press SAT/CABLE (FUNCTION)*.
3. For other operations, refer to the operating instructions that come with the equipment.

* The SAT/CABLE (POWER) and SAT/CABLE (FUNCTION) buttons cannot operate a satellite receiver (SAT) in Taiwan (the Republic of China) even if it is connected to the projection TV.

If the remote control doesn't work

- Try repeating the set up procedures using the other codes listed for your equipment.

To operate the projection TV

Press TV (FUNCTION). Then use the projection TV control buttons to control the projection TV.

Tips

- *If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.*
- *If you enter a new code number, the code number you previously entered at that setting is erased.*
- *In some rare cases, you may not be able to operate your equipment with the supplied remote control. In this case, use the equipment's own remote control unit.*
- *Whenever you remove the batteries — to replace them, for example — if too much time is taken, the code numbers may revert to the factory setting and must be reset.*

Troubleshooting

If, after reading the following instructions, you have additional questions related to the use of your Sony projection TV, please contact your nearest Sony dealer.

The picture turns off and the TIMER/STAND BY indicator on the front panel flashes (self-diagnosis function)	• The projection TV is equipped with a self-diagnosis function. If there is a problem with your projection TV, the TIMER/STAND BY indicator on the front panel will flash repeatedly. Counting the number of flashes helps you inform qualified Sony personnel of the projection TV's condition. • Press ON/OFF on the projection TV to turn it off, then inform qualified Sony personnel of the number of flashes.
No picture (screen not lit), no sound	• Make sure the power cord is plugged in. • Operate with the buttons on both the projection TV and the remote control. • Check to see if the TV/VIDEO setting is correct: when watching TV, set to TV, and when watching video tapes, set to VIDEO 1, 2, or 3. • Try another channel. *It could be station trouble.* • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 16)
Remote control does not operate	• Batteries could be weak. Replace the batteries. • Press TV (FUNCTION) when operating your projection TV. • Make sure the projection TV's power cord is connected securely to the wall outlet. • Locate the projection TV at least 3-4 feet away from fluorescent lights. • Check the polarity of the batteries.
Dark, poor or no picture (screen lit), good sound	• Adjust "Picture" in the Video menu. (see "Picture Adjustment" on page 23) • Adjust "Brightness" in the Video menu. (see "Picture Adjustment" on page 23) • Check antenna/cable connections. • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 16) • Adjust the convergence again using the FLASH FOCUS button. (see "Adjusting the Convergence Automatically (FLASH FOCUS)" on page 16)
Good picture, no sound	• Press MUTING so that "Muting" disappears from the screen. (see "MUTING" on page 117) • Check the MTS/SAP setting in the Audio menu. (see "MTS/SAP" on page 24) • Make sure "Speaker" is set to "On" in the Audio menu. (see "Speaker" on page 25) • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see "To perform AUTO SET UP again" on page 16)

Cannot receive upper channels (UHF) when using an antenna	• Make sure “Cable” is “Off” in the Channel Set Up menu. (see “Cable” on page 28) • Use “Auto Program” to add receivable channels that are not presently in the TV’s memory. (see “Auto Program” on page 28)
No color	• Adjust “Color” in the Video menu. (see “Picture Adjustment” on page 23) • Black and white programs cannot be seen in color. • Perform AUTO SET UP again using the SET UP button to return to the factory preset condition. (see “To perform AUTO SET UP again” on page 16)
Only snow and noise appear on the screen	• Check the “Cable” setting in the Channel Set Up menu. (see “Cable” on page 28) • Check the antenna/cable connections. • Make sure the channel is broadcasting programs. • Press ANT to change the input mode. (see “ANT” on page 19)
Dotted lines or stripes	• Adjust the antenna. • Keep the projection TV away from noise sources such as cars, neon signs or hair-dryers.
TV is fixed to one channel	• Use “Auto Program” to add receivable channels that are not presently in TV’s memory. (see “Auto Program” on page 28)
Double images or ghosts	• Use a highly directional outdoor antenna or a cable (when the problem is caused by reflections from nearby mountains or tall buildings).
Cannot operate the menu	• If the item you want to choose appears in gray, you cannot select it. • Press the projection TV’s power button off and on again.
Cannot receive any channels when using cable TV	• Make sure “Cable” is “On” in the Channel Set Up menu. (see “Cable” on page 28) • Use “Auto Program” to add receivable channels that are not presently in the TV’s memory. (see “Auto Program” on page 28)
Cannot gain enough volume when using a cable box	• Increase the volume at the cable box. Then press TV (FUNCTION) and adjust the projection TV’s volume.
Favorite Channel does not display your choices	• Verify that “Favorite Channel” is set to “Manual” in the Channel Set Up menu. (see “Setting Favorite Channel manually” on page 29)
Some video sources do not appear when you press TV/VIDEO	• Ensure that “Video Label” is not set to “Skip.” (see “Video Label” on page 32)
Recording through MONITOR OUT does not function properly when recording in PIP mode	• MONITOR OUT will not record both images in PIP. Only the main picture will be recorded. • If you are recording the main picture and you switch to the sound of the sub picture using the AUDIO button, the main picture will be recorded with sound from the other program.
Cannot play shooting games	• Some shooting games which involve pointing a light beam at the TV screen with an electronic gun or rifle cannot be used with this projection TV. For details, see the instruction manual supplied with the video game software.